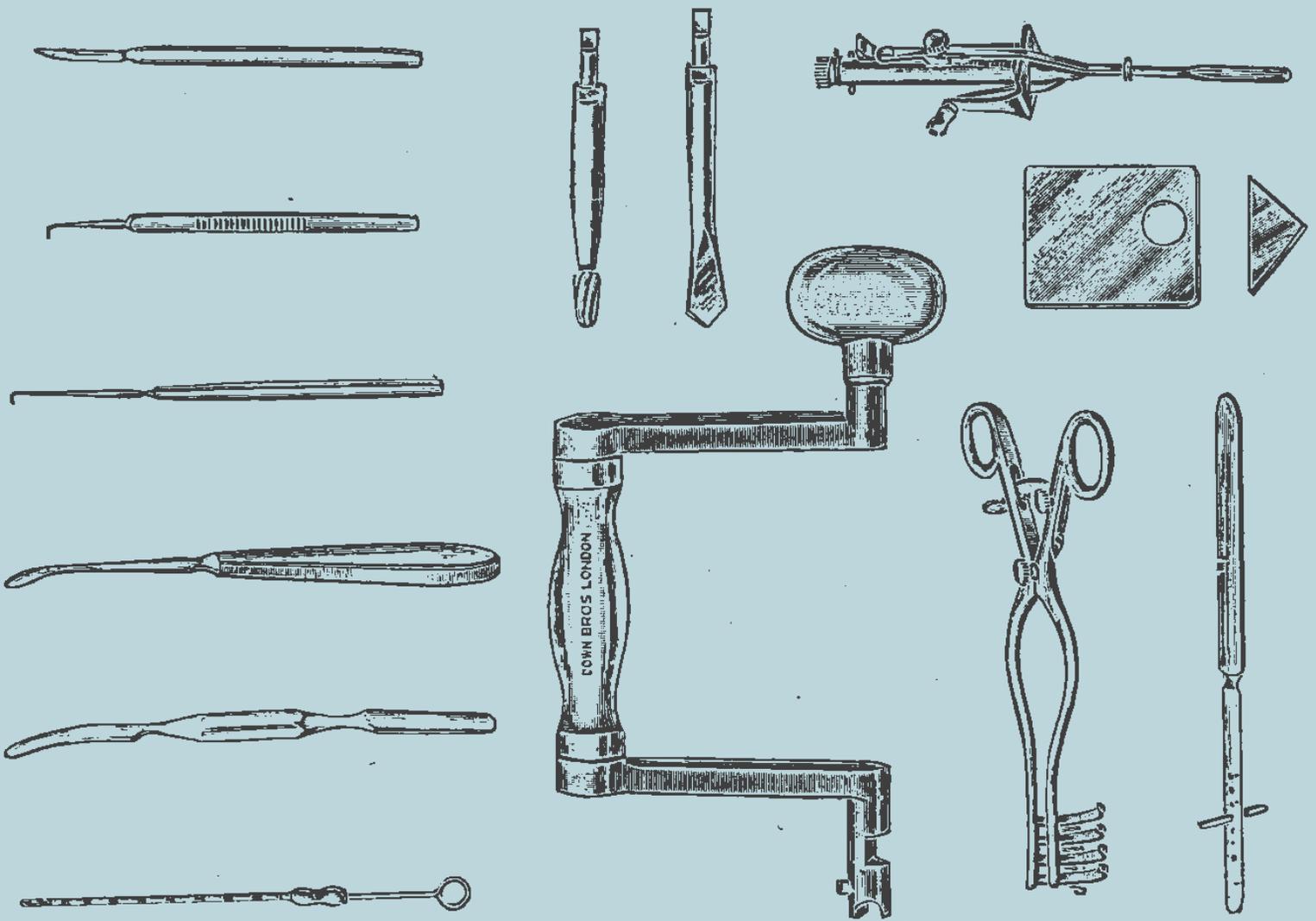


Neuropsychiatry News

Newsletter of the Faculty of Neuropsychiatry: Royal College of Psychiatrists

JANUARY 2016

#11



At The Cutting Edge Of Neuropsychiatry

Contents

Editorial

03 Short Cuts
Norman Poole

Special Article

04 Manhandling the Brain
Ken Barrett

Conference reports

15 Faculty of Neuropsychiatry, Royal College of Psychiatrists, London, Sept 2015
Julius Bourke

18 British NeuroPsychiatry Association (BNPA) 28th AGM Conference, Royal College of Surgeons, London, Feb 2015
Luke Solomons

22 73rd Annual Scientific Meeting of the American Psychosomatic Association, From Cells to Community and Back, Savannah, GA March 2015
Klaus Martin Beckmann

Abstracts

25 Spatial navigation is impaired in patients with cognitive impairment and neuropsychiatric co-morbidity
Roxanne Keynejad et al

28 Audit of the quality and consistency of Old Age Psychiatry Memory Clinic Letters to General Practitioners in Hertfordshire
Laura Midgley et al

30 Establishing a novel psychiatrist-led outpatient service for traumatic brain injury
Christoph Mueller et al

33 Acute severe depression induced by stimulation of the right globus pallidus internus
Johanna Philipson et al

AOB

35 Neuropsychiatry Regional Representatives sought

36 The Gosling Fellowship

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Short Cuts

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News

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Since at least the era of Freud's Royal Road clinicians have dreamed of discovering simple and single causes for psychiatric disorder. The Newsletter is pleased but not proud to present Ken Barratt's essay, delivered as a fascinating lecture at the Faculty of Neuropsychiatry's annual conference in September 2015, on the ignominious history of frontal leucotomy in psychiatry. From today's perspective it is difficult to comprehend how clinicians who understood the import of the frontal lobes for comportment could have so blithely cut its connectivity in the name of therapy. But Ken ably portrays the sequence of events and contemporaneous ideas that allowed the unconscionable to occur. What I found particularly disturbing about this history is how the procedure snowballed in the face of scepticism from those psychiatrists who cared for the patients in the months and years following the procedure. The psychiatrists appear as disvalued as their charges. As is so often the case, "medical hubris" led Walter Freeman to stray far from the Royal Road in his search for a short cut to cure. Psychiatry forgets the complexity of patients at its peril.

Happily, as our reports from conferences throughout 2015 demonstrate, current neuropsychiatry rejects equally the simplicity and nihilism that spawned the fad for leucotomy. Luke Solomon's report from the BNPA in February 2015 perfectly captures the breadth and depth that falls within the domain of neuropsychiatry. We are steered from Bayesian inferences to diagnostic

conundrums via a multitude of Internet links that are well worth exploring. Klaus Beckmann is a lucky man indeed. He last reported on the 16th International Neuroscience Winter Conference held in Sölden, Austria, and has thoughtfully packed his passport again to tell us of the 73rd Annual Scientific Meeting of the American Psychosomatic Association in Savannah, Georgia. Those with NHS study leave budgets can only read on with envy as Klaus tells us of the latest findings in the neurobiology of stress and mood. One can only surmise that Klaus enjoys a very positive affect from all his travels. My own study budget did however stretch to a bus ticket and so I can confirm that Julius Bourke's enthusiastic review of the Faculty of Neuropsychiatry's annual conference in September is on the money. Sadly, he is also correct about the state of the College's hot beverages.

The remainder of the Newsletter is given over to the winner and joint runners-up in the Faculty's annual Poster Prize. Well done to Roxanne Keynejad who won first place for her investigation of spatial navigation in those with Mild Cognitive Impairment. I hope to see some follow-up studies to determine whether differing types of navigation impairment are predictive of conversion into dementia, as this is what patients and carers are of course most keen to know. This must wait until Roxanne has found her way back to South London from Somaliland, however. Another globe trotting psychiatrist to envy! Congratulations go equally to Laura Midgley, Christoph Mueller, Johanna Philipson and their co-workers who were joint runners-up. Unusually we are presenting four posters as the judges just couldn't chose between them. The Newsletter finishes where we started. Johanna and colleagues present a case of pallidal deep brain stimulation for Parkinson's disease that induced profound depression whenever the right electrode was stimulated. The images of the patient's anguish are arresting. Evidently mood can be influenced directly by DBS but as outcome studies show the hows and the whys are far from clear. In neuropsychiatry, there are no short cuts.

Manhandling The Brain

Psychiatric Neurosurgery in the Mid-20th Century

Ken Barrett

Retired Consultant Neuropsychiatrist

The following essay is based on a talk given at the annual meeting of the Faculty of Neuropsychiatry, Royal College of Psychiatrists, on 10th September 2015.

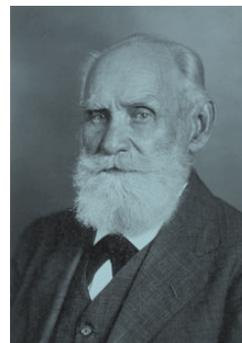
Introduction

In the summer of 1935 the largest gathering of brain specialists in history assembled at University College, London for the 2nd World Neurological Congress. The year also marked the 100th anniversary of the birth of John Hughlings Jackson. In a profession that loves a father figure, for its' various disciplines, Jackson was probably neurology's. The organisers struck a medal commemorating the anniversary as a gift for delegates, asserting a kind of British precedence at the outset.

The programme was wide ranging:
The Epilepsies included some of the earliest EEG studies in people with epilepsy.

The Frontal Lobes, a whole day session, included an overview by Kurt Goldstein, a brain injury specialist en-route to the USA, having been expelled from Germany

by the Nazis. There were sessions on the CSF and hypothalamus, and 250 'free' presentations, but the star of the show was undoubtedly an 86-year-old Russian: Ivan Pavlov.



Ivan Pavlov

Pavlov was awarded his Nobel Prize at the turn of the century for meticulous work on gastric physiology, which was followed by his seminal studies on conditioning in dogs. An editorial in *The Lancet* the following week noted:

In these researches we discern not only elaborate care in design and execution, but the perfection of a new experimental method – a method whose conception signifies genius.¹

In his last decade (he died six months after the Congress) Pavlov's new interest was psychiatry. The Soviets opened a psychiatric clinic next to his

laboratory and on Wednesdays he gave his opinion on clinical cases. His London lecture, "delivered to a packed hall" (so reported the New York Times) summarised his thoughts on the subject.

“ When I trained in the late 1970s leucotomy had come to epitomize psychiatry at its most oppressive and controlling, an object lesson in the medical hubris

The Lancet also reported that Pavlov was made an Honorary Member of the Royal Society of Medicine who hosted a drinks reception on the Friday, followed by 'a cinema entertainment'. They don't tell us the film but there were several hits that summer. Werewolf of London, would have been ideal. A scientist, savaged by a beast on a field trip, returns to London and, at the first full moon, transforms into a werewolf. Cultural historians like to read 'horror' movies as metaphors for their time. In 1935 the most dangerous 'beast' at large in the world was ideas. Communism, Fascism and National Socialism were about to wipe out tens of millions of people, and during that congress an idea would take hold of a member of the organizing committee. In consequence, almost as many people would die as on 9:11, three times that number would be rendered epileptic, and over 70,000 brain damaged. That idea was "prefrontal leucotomy".

When I trained in the late 1970s leucotomy had come to epitomize psychiatry at its most oppressive and controlling, an object lesson in the medical hubris. So why revisit it now? In the last two decades a number of scholarly publications have shed new light on the leucotomy story and the context in which it occurred. But there is a more pressing reason. By the 1980s electrodes could be accurately placed in the brain and left in situ along with an electrical stimulator. "Deep Brain Stimulation" (DBS) or "neuromodulation" has since been used to treat hundreds of patients with movement disorders. In 1999 workers in Belgium suggested it might help people with other intractable conditions, including Tourette's, OCD and depression. Five years on a neurologist wrote:

Now that Deep Brain Stimulation means the surgery is reversible, we no longer have to worry about permanent harm...On the other hand, now that psychosurgery could be readily available, potentially for a large number of conditions, we have a lot more to worry about.²

Since then trials of DBS have extended to include people with PTSD, anorexia, obesity and substance misuse. There is even talk of enhancing 'normal' functioning with the technique and 2014 saw the publication of the first book with the word "psychosurgery" in the title for 40 years. If we know anything about humans it is that we tend to repeat our mistakes. Perhaps now is the time to revisit that first wave of psychosurgery, in the middle of the last century, to try and understand how so many of our colleagues were willing to damage their patients in the name of "treatment". What follows catalogues the main events but also attempts to get to know some of the key players, and to understand something of their world and thought.

So How Did It Happen?

In the 1930s an oxide of thorium, marketed under the name Thorotrast, was found to be radio-opaque and became popular as an X-ray contrast medium. Several studies presented at the 1935 congress employed it, including four from the world's leading brain angiography department, headed by the professor of neurology in Lisbon, Egas Moniz. Moniz qualified in medicine at the turn of the century then studied neurology in Paris under Marie and Babinski.

Back in Portugal he obtained an academic post but also got elected to parliament and during World War 1, when Portugal was neutral, he joined the cabinet and rose to be Foreign Secretary. In the 1920s Portuguese politics veered to the right and eventually dictatorship. Thereafter Moniz focused on his academic career visiting Paris briefly to find a subject to study. X-ray imaging of the ventricles and spinal cord were possible at that time but no one had been able to reveal the blood vessels of the brain. In 1927, after a year of experimentation on dogs and cadavers, Moniz produced the first cerebral angiogram and headed back to Paris to claim precedence. For the next 20 years angiography was his main interest and his department conducted over 200 studies. Several were presented at the Congress, including a whole wall of posters.

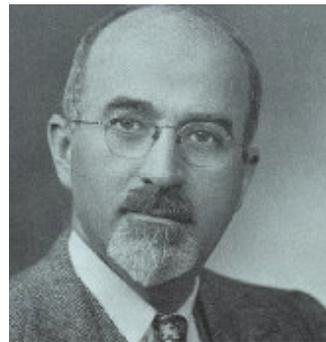


Egas Moniz

Thorotrast was also of interest to a doctor and academic from Washington DC called Walter Freeman. He had persuaded neurosurgical colleagues to use the medium instead of air in a series of ventriculograms and took a presentation to London. The organizers placed his more modest poster alongside the Portuguese group. Freeman and Moniz met and got on well, conversing in French. Freeman had also studied neurology in Paris, in the 1920s before his influential grandfather secured him a post in Washington. He was to run a new pathology department at St Elizabeth's, a 3000 bed state mental hospital. Over the next decade he performed over 1000 post mortems, published papers and a textbook on neuropathology and lectured at the local university.

But Moniz and Freeman had another thing in common: neurology private practice. Writing of the 1930s Elliot Slater, a leading English psychiatrist, noted that, at that time "neurologists monopolised the large and lucrative practice to be derived from neurotic and mentally disturbed patients".³ The mentally ill with money evidently preferred neurologists to asylum doctors. Slater goes on to say that patients would receive a thorough physical, be reassured there was no 'real' illness, and then be sent back to their GP for bromide. Moniz however worked in a private clinic that boasted a range of electrical therapies (this was before the convulsive variety), which he employed liberally on his psychiatric cases. But he wanted to do more, particularly for those stuck in the rut of late life depression, chronic anxiety and obsessionality. Citing Pavlov and the anatomist Cajal as influences, he pondered the neural basis of those symptoms. It was well known that the brains of such patients were usually normal in structure so he toyed with a new paradigm to explain their problems. "The cellular bodies remain altogether normal...but their multiple liaisons, very variable in normal people...have arrangements

that are more or less fixed, resulting in persistent ideas and deliria". That being the case, it may be possible to "suppress certain psychological complexes by destroying the cell connected groups" a development that would be "a great step forward"⁴. In his view the most likely location for those over-connected pathways was the tracts between prefrontal cortex and the thalamus.



Walter Freeman

At the London Congress Moniz and Freeman attended the day of lectures on the frontal lobes, and a later session on physiology in which Jacobson, from Yale, presented the mixed results of removing the frontal lobes from monkeys (one was became calm, the other agitated). Looking back Moniz was unable to say exactly when he decided to turn his speculations into practice but on his return to Lisbon he wasted little time. Almeida Lima, a young neurosurgeon who had accompanied him to London, was recruited along with the local professor of psychiatry and on 12th November 1935 Moniz and Lima performed the first prefrontal leucotomy. Their patient, 'MC', was a woman of 63 who had been in hospital for three years with to a mix of depression, anxiety and paranoia. Under general anaesthetic, and directed by Moniz, Lima made boreholes in the top of her skull, inserted a long needle down to the base of the frontal lobes and injected a small amount of pure ethanol (a substance commonly used to destroy nerves as a treatment for neuralgia) at three points in each hemisphere.

The patient survived the procedure and, in Moniz's opinion the effect on her mental state was positive. He therefore embarked on a series of twenty but along the way he became concerned at the unpredictability of the alcohol method and so devised a surgical instrument, his 'leucotome' or 'corer, essentially a hollow spike

out of which a small loop of wire could be pushed and rotated.

The twenty were all long-term inpatients, none died and, again in his view, no one was worse. Ten with 'agitated melancholia' or 'acute anxiety' were judged 'recovered or improved' as were four others diagnosed as schizophrenic or manic. That results prompted him to carry out another series but before that he wrote a paper in French on the first group and sent a junior colleague to a neurological meeting in Paris to present it. Moniz was highly regarded in the city but it was not well received. One comment was typical: "Malaria therapy, insulin therapy...were inspired by clinical findings...By contrast, no-one has ever seen an organ improve its function after a hazardous mutilation"⁵. More damning was the view of Sobral Cid, the professor of psychiatry who had provided the first patients. He had been unhappy with their condition on return to his care and after the first 4 refused to cooperate. Following pressure from Moniz he agreed to continue but after 15 called a halt and the neurologist was forced to go to another hospital for the remaining five and the next series of 21. Cid did not agree with Moniz's view of the outcomes and called his speculation on the neural basis of the symptoms nothing more than 'cerebral mythology'.

Undeterred, Moniz had his paper translated into several languages including Spanish and Italian and the procedure was soon copied in Cuba, Brazil, Rumania and, with most enthusiasm, Italy. Moniz accepted a free two-week holiday in the country to demonstrate the technique. Italy was perhaps particularly receptive because at that time neurology and psychiatry were part of a single medical discipline and in little more than a year over a hundred leucotomies had been performed, including some with improvisation. At the time the only truly effective treatment in psychiatry was infection with malaria to treat neurosyphilis. One Italian thought it might be best delivered directly into the brain and used a trocar to punch a hole through the orbital bone, entering under an eyelid. The technique didn't catch on but a neuropsychiatrist called Fiamberti adopted it, rather than bore-holes, to inject alcohol into the frontal lobes.

Moniz expanded his paper into a 250-page monograph, "Tentatives operatories dans le traitement de certaines

psychoses" and having recently heard from his new American friend, Walter Freeman, sent him an autographed copy. Freeman was impressed. He had recently recruited a neurosurgeon, James Watts, to teach with him, and suggested they might carry out their own series. Watts was interested in part because he had spent time at Yale in Fulton's physiology laboratory, where experiments on the frontal lobes of monkeys were carried out. But Freeman wasn't a psychiatrist and his own hospital, St Elizabeth's, refused to cooperate so he looked elsewhere for patients. They began their series with a Moniz leucotome but soon adopted their own technique (entering the brain through a hole in the temporal bones with a blunt knife which was then swept up and down to sever the tracts). There were no deaths in their first series of twenty and Freeman noted that worry and anxiety in particular were markedly reduced in their patients. They presented the work at a series of psychiatric meetings and the response was often highly critical:

"As a pathologist he may not have much fear of looping out pieces of sub-cortical tissue..."

"This is not an operation but a mutilation".

"You are burning down a house to roast a pig".⁶

The last was from Smith Ely Jelliffe, a leading psychoanalyst. In his defence Freeman insisted that 'a brain can take a good deal of manhandling'.

Their first presentation, however, was in Baltimore before the patient series was complete, at a meeting attended by Adolph Meyer, an influential figure in American psychiatry. Meyer promoted the notion of psychiatric 'disorder' rather than disease, was not much interested in traditional diagnostic labelling and viewed psychiatric 'illness' as reaction to the individual's environment. Leucotomy was not aimed at specific diagnoses but at modifying affective response. Meyer concluded, "...the available facts are sufficient to justify the procedure in the hands of responsible persons". Kurt Goldstein, the recent German émigré and brain injury specialist also attended one of the meetings but had also spoken to some of Freeman's patients.

What some of the patients have told me about their condition before and after the operation was

impressive...the affective attitude seemed to have changed completely...which the patients particularly appreciated.⁷

In writing up the series Freeman and Watts concluded, cautiously that "...the indiscriminate use of this procedure would result in vast harm....it should be reserved for a small group of specially selected cases..."¹⁶ But some psychiatrists didn't agree that the reach of the technique should be so limited. In order to understand why you need to know something of US psychiatry at that time, and in particular how it was practiced in large state mental institutions. A case in point is Pilgrim State Hospital on Long Island New York.

The hospital was built in the early 1930s and aimed to be state of the art. It had 10,000 beds, which was not uncommon in the US, but was proud of its standards of care and the speed with which it introduced new therapies (malaria, insulin coma etc..). Less wealthy states were not so fortunate. During World War Two many conscientious objectors were sent to work in state mental hospital and witnessed very poor standards of care. Some collected evidence and at war end a group in Ohio approached a leading churchman who in turn went to the State Governor. An article in Life magazine entitled 'Bedlam 1946' exposed shockingly poor standards and included photographs of naked and soiled patients standing idle (echoing images from the holocaust). The resulting scandal led to an increase in mental health funding in many states in the late 1940s.

The fact was that if a patient remained in a state mental institution for two years there was very little chance of discharge. Imagine for a moment the most disturbed 5% of inpatients (500 at Pilgrim State) at a time when the only effective treatments were malaria and sedation. If there was any possibility that a new technique might modify behaviour (in addition to muting emotional response) it was, surely, worth a try. Their relatives were likely to seize any chance of improvement and what, in the end, did the patient have to lose? When the techniques was tried, in that context, previously unmanageable behaviours were often diminished or eliminated, patients were able to move from disturbed to open wards, and some were discharged altogether.

Surgeons at this time were often portrayed in the press as heroic figures working at the frontiers of medicine,

and this was a case in point. Overblown stories with vivid headlines began to appear. "Wizardry of surgery restores sanity to fifty raving maniacs" trumpeted one newspaper. Leucotomy gradually took off as a potent way of modifying behaviour and Freeman was quick to shed his earlier caution. When he and Watts produced the first textbook on psychosurgery in 1942 the book jacket announced that "those treasured frontal lobes, supposedly man's most precious possession, can bring him to psychosis and suicide..." and that the book revealed how "...personality can be cut to measure, sounding a note of hope for those who are afflicted with insanity". Elsewhere he claimed they were producing a "surgically induced childhood", a comment that was particularly inspired. Having taken the ill person back to childhood, who better to help them reconstruct their ego than psychoanalysts, earlier opponents of the procedure?

But How Could They Do That?

By the summer of 1940 no leucotomies had been carried out in Britain, and the country had been at war with Germany for a year. In the months before the war William Sargant, a recently qualified Maudsley Hospital psychiatrist, went on a study tour of the USA where he met Walter Freeman and interviewed several of his patients. He returned eager to use the treatment in Britain but the Maudsley refused to allow their patients to be surgically brain damaged. Undeterred, Sargant contacted an old teacher, Professor Frederick Golla. He is an important figure in this story and so we will look at his career in some detail.

Golla trained in neurology at Queen's Square at the beginning of the 20th century, the final years of Hughling Jackson's working life. He was then appointed assistant physician at their Maida Vale branch, went into private-practice and was set for a conventional career in neurology had the First World War not intervened. He volunteered, saw action in France and became intrigued by soldiers' reaction to combat. He took a particular interest in 'shell shock' and came to believe that he could predict who in his company would break down. He later served on War Office committees where he met Sir Frederick Mott, the founder of the Maudsley Hospital and an authority on 'battle neurosis'. After the war Golla returned to his neurology practice but also began a series of experiments, at the Maudsley's Central Pathology laboratory (which was directed by

Mott) looking for physiological markers of vulnerability to neurosis. His approach was in many ways the opposite of Pavlov's; he flitted from one technique to another without coming to firm conclusions, but the work was innovative and Mott was impressed. In 1921 Golla was invited to give the prestigious Croonian Lectures, which he titled "The objective study of neurosis".



Frederick Golla

In addition to directing his laboratory Mott was also responsible for coordinating psychiatric training and research in London and when he retired in 1924 Golla was appointed, on his recommendation, as his successor. In modern parlance Golla was a 'behavioural' neurologist who maintained a strictly constitutional/organic view of mental illness and had little sympathy for the growing popularity of psychological therapies. In 1938 he was appointed Professor of Mental Pathology at London University and was also headhunted for a new post: directorship of the newly created Burden Neurological Clinic, in Bristol.

The 'Burden' was set up by a charitable trust for "the

“ Before long nightmares began, followed by bouts of anxiety and depression and gradual social withdrawal

cure elimination amelioration study or investigation... into ailments diseases or other matters of a cerebral or nervous nature...including mental disorder and mental defect".⁸ Golla was invited to put together a clinical and research team and in 1939, at the age of 60, took the job. The following year he appointed his clinical director, Effie Hutton, a London psychiatrist with a track record of research.



Effie L. Hutton

When Sargant contacted Golla in 1940 regarding the possibility of beginning a leucotomy trial in the UK he was enthusiastic and passed the job of selecting patients, and publishing the results, to Effie Hutton. The first such patient, 'VB', underwent leucotomy on 19th February 1941.

Bristol was a major port with a large aircraft factory and a prime target for German bombing. Raids began in August 1940 and continued until the following April, killing over 1200 people. After each raid a band of labourers cleared the rubble and 'VB' was one of them. During a daylight raid in the autumn an occupied bomb shelter was hit and VB, a veteran of the trenches, helped with the clear up. He had returned from the First War relatively unscathed, physically. He married and started a family, but before long nightmares began, followed by bouts of anxiety and depression and gradual social withdrawal. He was unable to work for long periods but by 1940 was employed again and holding it together, until that shelter was hit. After the clean up he was unable to sleep or eat for several days and thereafter wandered the street in a state of anxiety listening for air raid sirens, and feeling a coward as his wife and children seemed unconcerned. He eventually saw a psychiatrist who told him of a new surgical treatment had recently arrived from the US and was only available in Bristol.

Effie Hutton admitted VB to the Burden on 15th February 1941 and four days later a frontal leucotomy was performed, using the Watts and Freeman technique, under local anaesthetic. In the absence of a 'leucotome', the surgeon improvised with a paper knife.



The improvised 'leucotome'

Frederick Golla observed the procedure and later wrote that VB was

"... talking the whole time and when the severance of the tracts took place the talking continued without the least hiatus or any indication that anything had happened."⁹

Immediately after the operation his nightmares stopped and he was no longer anxious. Though there were several air raids during his stay in hospital he was untroubled by them and when discharged two months later he returned to work as a labourer. Golla concluded:

"Until such time as we realize the almost infinite lability of the CNS...we shall...find ourselves outwitted by the recuperative powers of the damaged nervous system. "

He goes on to say that the brain is not fixed like a telephone exchange, but is adaptable, citing a personal experience in support. Whilst training in neurology at Queen's Square he assisted Sir Victor Horsley, Britain's first specialist neurosurgeon, in an operation for Jacksonian epilepsy. (This was around 1906; remarkably, Horsley had performed his first successful operations for Jacksonian seizures, 20 years before). Seizures began in the patient's thumb then spread to his hand and arm. The operation, which involved removal of the hand area of the motor cortex, cured the epilepsy and left the patient with flaccid paralysis of the hand. But over the following months the hand regained movement and power and a year later his only complaint was about his tennis swing. His brain had compensated for the surgical damage.

Belief in the adaptability of the brain was part of a mid-20th-century debate on brain function that had its origin in the 19th century. In 1874 Hughlings Jackson wrote

"To locate the damage which destroys speech and to locate speech are two different things."¹⁰

He agreed with Broca that damage to an area of the left frontal lobe impaired speech production but disagreed that speech, and other functions, were so strictly 'localised'. Over the next 30 years, as more functions became mapped onto the cortex, medical opinion moved away from Jackson's view, but at the beginning of the 20th century the tide began

to turn. Pierre Marie, the leading Paris neurologist, examined the preserved brain of Broca's key patient and arrived at different conclusions. The First World War produced unprecedented numbers of young men with focal brain damage. Henry Head in the UK and Kurt Goldstein in Germany took a particular interest in their treatment and rehabilitation. They concluded that the remarkable levels of recovery reached by many were simply incompatible with an entirely fixed, immutable, localisation of function. Lashley in the US and von Monakow in Switzerland held similar views and so evolved a more dynamic, holistic view of the brain, a view clearly shared by Golla, Freeman and Moniz. If the brain had the capacity to adapt, so went the argument, it was worth making it do so in cases of severe intractable mental illness.

In July 1941 the *Lancet* published a paper by Effie Hutton describing the first eight patients treated with leucotomy at the Burden. Thereafter, the technique was widely adopted in the UK. As the war drew to a close the body responsible for psychiatric hospitals, the 'Board of Control', decided to find out just widely and with what effect. Printed cards were sent out listing age, sex, diagnosis and outcome and hospitals were required to complete and return them on all patients who had the operation. The numbers were impressive and in 1947 they finally published their analysis, a 30-page document entitled "Prefrontal Leucotomy in 1000 Cases". The document concluded that a third of the people treated had resumed their everyday activities "without that emotional tension and preoccupation with hallucinations and phantasies which has hitherto handicapped them".

Women outnumbered men by a ratio of 3 to 2 (a remarkably constant finding, internationally). The operative death rate (from haemorrhage) was around 3%, post-operative epilepsy 10%. Also listed were a range of adverse effects of variable severity and duration, including urinary incontinence, disinhibition, impaired drive and initiative, insight and foresight. Standard tests of intelligence were however generally unimpaired. It is a remarkable document, not as a reliable guide to the efficacy of the treatment but as a snapshot of clinicians' opinion. For example, a histogram illustrates a range of symptoms, and how many were judged 'gone' after treatment. They included agitation (71.3%), depression (71%), obsession (53.1%) and

delusion (36.6%). In light of that the Board of Control supported continued use of leucotomy.

I found the report difficult to get hold of and eventually read it in the Public Records Office. The relevant government file included a hand-written follow up note prepared in response to an MP's question in the early 1950s, on the extent of the practice. In five years from 1948 to 1952 there were 7225 operations of which 4468 were on women. There were 169 operative deaths.

Why Did It Fall Out Of Favour?

When the World War ended in 1945, Walter Freeman's reputation was in some respects riding high. The treatment he had promoted and modified was being used to relieve hundreds of mentally ill patients. Thanks to him the technique had been adopted enthusiastically in Britain and Scandinavia (Sweden was to become the most leucotomised nation in the world) and he was the co-author of the first textbook on the subject. But for him the procedure had one major drawback: cost. Each operation cost around 500 dollars and many poorer states were unable or unwilling to spend that amount on a single patient. As a result thousands of people who might have been helped by 'lobotomy' (his preferred term) languished in state mental hospitals with little hope. A simpler and less expensive technique was required and by the end of that year he believed he had found it, by combining two Italian innovations: electroconvulsive therapy and a 'trans-orbital' approach.

By 1945 Freeman was using unmodified ECT (i.e. without general anaesthetic or a muscle relaxant) as an outpatient, office procedure. He noted that when two applications were given, one immediately after the other, the patient was rendered unconscious for several minutes. Since 1937 Fiamberti in Italy had continued injecting alcohol into the frontal lobes via holes punched through the orbit, above the eyes. Freeman's idea was to render the patient unconscious with ECT and then insert a suitably sharp instrument under the upper eyelid, through the orbital bones and into the frontal lobes. Sweeping the instrument sideways could then sever the white matter tracts. He reasoned that as tears were sterile operating theatre conditions were not required. After experimenting on cadavers with a range of sharp objects he eventually found the solutions in his kitchen drawer: the ice pick.

By January 1946 he had chosen his first subject, a 29-year-old woman with recurrent agitated depression, one of his private outpatients. Whilst her husband and 4-year-old daughter waited in the waiting room, Freeman gave two applications of ECT, raised an upper eyelid and, using a hammer, punched a sterilised ice-pick 7cm into her brain. He then swept the handle sideways over the nose before removing it. In his diary he recorded that he had been overcautious on that first occasion and so only treated one side. He got her back the following week and repeated the procedure on the other.

The patient suffered black eyes and short periods of confusion but her depression remitted and she later bought Freeman an expensive watch, as a token of her thanks. Freeman was encouraged to continue, but it was some months before he shared the fact with colleagues who, in the event, strongly advised him to stop. He didn't, but replaced the ice-pick with a pair of self-designed 'leucotomes' and over the next twenty years promoted the technique at home and abroad. He operated on many patients, often in previously neglected backwaters of the country and was to boast that he needed only 6 minutes per procedure. It is estimated that he performed over 3000, including around twenty on patients under the age of 18. In 1967 a patient on whom he had already performed two such operations relapsed and asked him for third. He obliged, she died of a brain haemorrhage and when the details became known his hospital refused to let him perform any more. By that time his reputation had already been damaged, and as the years progressed he was increasingly vilified.

In 1947 neurosurgical facilities moved out of the Burden Neurological Clinic and into nearby Frenchay Hospital. This was probably a relief to Effie Hutton; she had become increasingly concerned about the side effects of leucotomy and published a series of papers on the subject in the late '40s. One included a six-year follow up of that first patient, 'VB'. Though he continued to regard leucotomy as 'the best thing that has every happened' to him those close to him disagreed. He hadn't remained in work for long, as he was unreliable. He refused to take a bath, was often foul-mouthed, irritable and, in his wife's words, 'impossible to live with'.

1947 also saw the first conference on the frontal lobes, this time in New York, and including a session

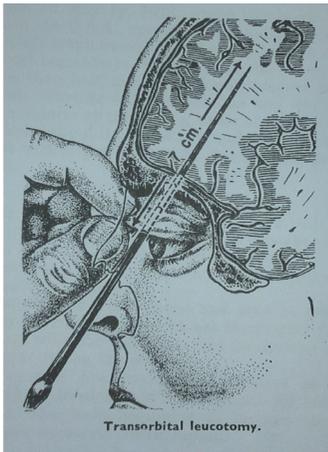


Figure 1: (From Freeman F (1948), *Transorbital Leucotomy*, *Lancet*, Sept 4, 371–373.)



Figure 2: Portuguese stamp commemorating Moniz's Nobel prize.

on leucotomy. Moniz's 'cerebral mythology', the desirability of interrupting the connection between the prefrontal area and thalamus, was not seriously challenged, but adverse effects and how to avoid them took centre stage. Over subsequent years surgeons sought maximum benefit from minimum destruction, targets including the prefrontal cortex (topectomy) the white matter (capsulotomy and subcaudate tractotomy and others) and medial thalamotomy. The latter is of interest because a neurologist and surgeon invented a 'stereotactic cage' to find it, the first time this type of surgery had been used in humans. Other surgeons, including Hugh Cairns in the UK, targeted limbic structures, including the cingulate gyrus. In 1948 Lisbon hosted the first international conference on psychosurgery, with presentations from 14 countries, and the following year Moniz shared the Nobel Prize for medicine, awarded for leucotomy rather than angiography.

Despite technical innovations the number of operations performed declined through the 1950s. The dramatic improvements previously reported by clinicians, as recorded in the Board of Control report, became more elusive as the eye of faith was replaced by more objective methods of assessment, and longer-term follow-up. However, the main reason for the decline was almost certainly the introduction, in 1952, of Chlorpromazine. In those early days the drug was even marketed as a chemical alternative to leucotomy. In the 1960s aggressive and other 'undesirable' behaviours in adults and children were targeted by psychosurgeons,

particularly in India and Japan. Such developments helped fuel an ethical debate that led to much stricter control and regulation, but not, in most countries, an outright ban. In truth, psychosurgery never went away.

Conclusion

Thirty years ago I was fortunate to spend three months as a visiting fellow in behavioural neurology in Boston, Mass.. One afternoon, at the suggestion of a colleague, I travelled across town to meet a neurosurgeon called Tom Ballantine. He was emeritus professor of neurosurgery at Harvard and as a lowly senior registrar I felt somewhat intimidated. I needn't have: he was warm, welcoming and pleased to talk about his work, especially with a psychiatrist. He had just written up a series of almost 200 cingulotomy operations, performed for treatment resistant depression or intractable pain. I was impressed by and commented on the number of psychiatric textbooks on his bookshelf. He was at pains to reassure me that he didn't do his own psychiatric assessments, they had a psychiatrist on the team for that, but he felt he needed to understand the language and issues. His team also included a psychologist and ethicist. I mention the visit not to promote cingulotomy, but because I believe Ballantine's approach contains useful lessons.

Firstly I don't believe he, or any neurosurgeon I have met, would have said the brain 'can take a good deal of manhandling'. It can't and is best protected by keeping psychiatrists, neurologists and pathologists well away from it, at least in life.

The second point is about teams and their hierarchies. Despite his status, physical size (he was tall), and white coat, Ballantine was warm and open. It is fairly well known that key decisions on the flight deck of commercial aircrafts are now made collaboratively. The hierarchy was flattened as a result of fatal accident enquiries. The same is true of psychosurgical teams; though one should never underestimate the power of a senior doctor with a bee in his bonnet.

The final point takes us back to Pavlov and his methodical, controlled and exhaustive approach to research. In an afterword to the 2014 textbook on psychosurgery mentioned earlier, Marwan Hariz, Professor of Functional Neurosurgery at Queen's Square, noted:

"Since 1999... there have been eight published targets for DBS in OCD, ten in Tourette, nine depression...Despite this lack of consensus...DBS is now being trialed for drug addiction, anorexia nervosa, PTSD, dementias, and...for enhancement of cognition in normal people." ¹¹

With so many disorders to choose from, and so many possible targets to 'neuromodulate', the likelihood of accumulating a large series of patients, followed up long-term and focusing on a single site and disorder, seems remote. That approach certainly wasn't adopted before leucotomy took off in the middle of the last century, and in this essay I have explored some of the reasons why. Those reasons no longer apply.

Acknowledgement:

I'm grateful for the assistance of Jane Sweetland, librarian at Southmead Hospital Bristol, Jackie Cheshire at the Rockefeller Library, Institute of Neurology, and the library of the Royal Society of Medicine. The photographs of Pavlov, Moniz and Freeman are, to the best of my knowledge, open source. Those of Golla and Hutton were courtesy of Ray Cooper. The paper knife and stamp are from my own collection.

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Comment: I found *Last Resort* the most balanced and rewarding in the list. It includes a good account of the psychiatric environment at that time. *The Lobotomy Letters*, contains an interesting discussion on holism, the history of which is covered in *Medicine, Mind and the Double Brain*. *Psychosurgery: the Birth of a New Scientific Paradigm* has the most detailed account of Moniz (it is by a Portuguese academic), and has a fascinating chapter on Phineus Gage. The recent Pavlov biography is large, but interesting on neuropsychiatry in Russia at the turn of the century, and much else.

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Conference Report

Faculty of Neuropsychiatry, Royal College of Psychiatrists, London, September 2015



Julius Bourke

**Clinical Lecturer and Honorary Consultant Psychiatrist,
The Centre for Psychiatry, Barts and The London School of
Medicine and Dentistry, Queen Mary University of London.**

Sometimes one must tread a lonely path. This was my first visit to our new Royal College in the East End of London. I had always assumed that our Knightsbridge residence would be a hard location to beat and, having trained on the other side of London, infrequent visits there were always a breath of fresh air and an excuse to pay over the odds for a drink. But our new lodgings are really rather impressive, easy to reach and much better suited than was the building in Belgrave Square for these important meetings that allow us to pursue valuable CPD points and catch up with colleagues.

With the College's geographical change, other movements have occurred too, not least in the growing maturity of Neuropsychiatry as a Faculty over the past seven years since it's promotion from 'Section' and a Special Interest Group (SIG). Annual meetings and conferences are often an acid test of strength

and perceived relevance of sub-specialties, if based only upon attendance and it is always interesting to see how neuropsychiatry measures up in this regard. Continuing professional development has and always will be important in the careers of doctors, and rightly so. However the sheer choice of meetings currently available and the number of independent companies that have arisen offering 'CPD' points in the face of the UK's still novel revalidation process, alongside dwindling or withdrawn budgets for study leave means the market place has become increasingly competitive. This year's neuropsychiatry conference held in September was then such an acid test for me. The subject matter of our Faculty's conference this year related to the clinical management, service provision and the medico-legal matters relevant to selected neuropsychiatric disorders.

The conference opened with an excellent review of the role of neuroimaging in the management of dementia followed by an update on Huntington Disease. The latter was given by Dr Edward Wild, who was standing in for Professor Sarah Tabrizi. Dr Wild apologized for the latter's absence and his presence in her stead but need not have done so. He spoke eloquently and optimistically about a disease that led his colleagues to ask 'why do you want to do that?' when he began his research in this area. The talk provided fascinating insights into the benefits that 'gene silencing' drugs may have in this population – insights that explained his optimism and, I think, fostered the same in the audience.

Following some pretty decent biscuits and some almost drinkable coffee (why must it always be thus?!), we were met with further optimism in Professor Tadros' RAID data. Length of stay reductions and quantified cost savings are possible with a fully functioning liaison service that caters to a hospital as a whole were my

“ Professor Hariz took up the mantle but put down the ice pick to explain how much things have changed and how neurosurgery may still have much to offer to psychiatry

take home notes. With RAID services coming of age and increasing in number up and down the country, this was a great summary of a success story that we will hopefully see replicated. Professor Tadros was followed by Dr Ball, a physician who made a great case for the importance of collaborative working in neurorehabilitation and the successes obtained with this in North Staffordshire.

Some history followed in the afternoon with Dr Barrett providing a fascinating summary of mid 20th Century neurosurgery in psychiatric disorders (see essay in this edition of the Newsletter). Although not for the squeamish, it was difficult not to be riveted by our pioneering predecessors and their fascination with glorified ice picks in a rather more hands on approach to the management of mental disorders than we are familiar with today. Professor Hariz took up the mantle but put down the ice pick to explain how much things have changed and how neurosurgery may still have much to offer to psychiatry. I consider myself fortunate to have previously heard him speak on a number of different occasions and on a number of different continents (both make me fortunate here, rather than just the latter!) His talk was characteristically bibliographic and informative and provided the perfect primer for those unfamiliar with the functional neurosurgical techniques that continue to provide promise in the treatment of our patients with treatment resistant disorders.

After trying to taste the coffee in the coffee again, we split off into groups for afternoon workshops – movement disorders and social cognition (I heard good things) and service models in brain injury. I attended the latter, expertly chaired by Dr Mike Dille. Trainee presentations of the highest calibre followed on a variety of subjects and which were well worth sticking around for before home time.

Day two began with an important perspective – that of someone who had suffered a traumatic brain injury: a psychiatrist. This was an important perspective for us to hear and is perhaps not one made available often enough to us as clinicians. Before we were again separated into our chosen workshop groups (a well rounded selection of medicolegal matters, Parkinson's disease, alcohol misuse and epilepsy), we were introduced to what was to be the theme for the remainder of the day: medicolegal aspects of brain injury. Professor Barnes opened with a talk on the uses and abuses of the law in brain injury, which provided us with great insights, particularly in how being an 'expert witness' no longer infers expertise in a clinical field alone but also in being a witness; with the caveat that you can be made to look like an idiot in court.

We then received some legal advice pertaining to capacity assessments for the Court of Protection. The assessment of capacity has become so much a part of everyday clinical life since 2007 that the legal niceties are probably forgotten outside the standard two-part test and ensuing clinical debate. Ms Flannagan provided a comprehensive run down of what the Court of Protection wants from us as doctors. She also opened our eyes to an excellent online resource (http://www.39essex.com/cop_cases/) with upto date case law as well as other resources – have a look, it is actually very useful! Brief and perfectly formed summaries followed on motion and emotion and the treatment of Tourette Syndrome before we partook of more warm brown liquid masquerading as coffee.

In the afternoon, the medicolegal theme continued. The lecture room felt somehow more swollen with people. There was unease in the air as we felt ourselves transform into tricoteuse: Bird and Scheepers were about to get torn apart by opposing counsels, live, on stage, before our very eyes!

This was fabulously entertaining but demonstrated something that a didactic lecture could not – essentially, what utter cads barristers can be! Intentionally set up to represent two expert witnesses being cross-examined on the same case, having expressed opposing views on a head injury case in their respective reports, the two experts also portrayed opposing characteristics. Dr Scheepers was reticent, mostly monosyllabic in his responses but to the point, whilst Dr Bird was confident and eloquent yet long-winded and predominantly

wonderfully arrogant – as he put it afterwards, “nothing like I am in real life: I’m a teddy bear.” Upon being asked if he was in fact dismissing all clinical evidence cited by every clinician and the opposing expert, including by making accusations of conflicted interests in sustaining an admission in order to make more money, Dr Bird simply replied “My Lord, sometimes one must tread a terribly lonely path to uphold the truth.” This almost brought the house down and the barristers struggled to contain their laughter. The point was a serious one, of course. Many of us write court reports and although we may worry about being called to give evidence, this is a relatively infrequent occurrence. Therefore, whilst we are clinically experienced and often well-rehearsed in writing

reports and expressing opinion, we are by comparison complete novices in how to avoid being out-maneuvered by barristers who are experts in doing just that.

So, how did the conference fare in the acid test? Gold or base metal? Overall, I thought that it was the perfect mix – educational and appropriately updating for ‘CPD’, informative from both an academic and a clinical perspective and practically helpful in some complex areas allied to clinical practice. The conference was gold, our new residence is very fine as was the food. Now, for the love of all that is good an holy, please can we do something about the coffee!

Conference Report



BNPA 2015 Conference Report

Luke Solomons

Consultant in Psychological Medicine, Oxford.

The 28th Annual Meeting of the British Neuropsychiatric Association (BNPA) in February 2015, was different from previous meetings. The conference was not at its traditional home in the Institute of Child Health (ICH), having moved to the imposing Royal College of Surgeons building at Lincoln's Inn Fields. The Royal College of Surgeons building hosting a neuropsychiatry conference was an apt metaphor for the blurring of traditional physical and mental boundaries and increasing recognition of mind-body unity. It was a joint meeting with the association of British Neurologists, the British

Psychological Society's Division of Neuropsychology and the UK Functional Symptoms Research Group. The reason for the change of venue was explained at the BNPA AGM. The Vandervell Lecture Theatre which seated 300 was a good venue, with the large oak paneled Edward Lumley hall which served as the dining/poster viewing area much larger and less crowded than the foyer used at the ICH.

The 'how' and 'why' of functional symptoms was the broad focus of the meeting. Our understanding of 'functional disorders' as a group of symptoms is changing rapidly with recent research advances. Interactions with BPS colleagues and linking of research evidence around symptoms, investigations and treatments to day-to-day clinical practice were very useful. Each day started with a lecture on the background and history of the functional symptoms/body image/memory disorder theme before moving on to the current state of evidence and available treatments. The debate on day 3 summed up the tensions and differing views on the highly emotive subject of functional disorders. There seemed to be a lot more videos embedded in presentations this year, which were particularly helpful.

Day 1

The 'how' and 'why' of functional symptoms and what to do about them

Mark Edwards from Queen's Square set the tone for the conference with 'Bayesian inference' – describing attention, beliefs and agency and the probability of their role in the development and manifestation of functional symptoms. Selma Aybek from Geneva University then reviewed the evidence for the role of childhood trauma in functional neurological symptoms, moving onto fMRI studies, which revealed abnormal limbic-motor interaction. Finally, she described abnormal automatic motor responses including a video of the Killdeer bird 'broken wing' act as an analogy ([link to similar video on YouTube and a good aide-de-memoire – www.youtube.com/watch?v=Tytzi6Tf1v4](#))

The programme moved to treatment of functional symptoms, with Glenn Nielsen, a specialist physiotherapist working alongside Mark Edwards at Queen's Square describing the inpatient regimen for functional disorders with videos showing examples of good outcomes even for people with longstanding symptoms. ([link to consensus statement on physiotherapy for functional symptoms – http://jnnp.bmj.com/content/early/2014/11/28/jnnp-2014-309255.full.pdf+html](#))

This was followed by Trudie Chalder from King's College London who informed us that 'Persistent Physical Symptoms' was the preferred diagnostic label amongst a patient population with long-standing medically unexplained symptoms. She described the results of the PACE study for CFS and CBT for IBS, distilling out the essence of cognitive behavioural interventions.

Jnnp Plenary

John Duncan from the MRC cognition and brain sciences unit in Cambridge delivered an informative lecture titled 'the neural basis of general intelligence'. He described fluid intelligence, its relationship to working memory and how it could be measured. He also attempted to establish its difference from general intelligence and frontal executive functioning.

Lunch and poster viewing was a busy hive of activity, with plenty of catching up and networking typical of a BNPA meeting.

Diagnostic Masterclass & Members Presentations

The association of British Neurologists Cognitive Special Interest Group presented a range of clinical conundrums, working through a step-by-step diagnostic process for the first diagnostic masterclass. Much to the chagrin of the presenters, experts in the audience were a bit too quick to answer queries with definitive answers! Chris Butler's case of a young woman with transient epileptic amnesia was particularly thought provoking.

At the member's presentations, Bethan Dewer's results of an audit on radiological reports did not come as a surprise to many in the audience, clinicians who constantly argue for the need for joint radiology MDTs. The simple audit quantified a common frustration faced by many clinicians. Ingrid Hoeritzauer described symptoms of Fowler's syndrome and comorbidity in a retrospective cohort, and was asked about extending the work to involve queries about sexual abuse. Antonella Macerollo described a small but elegant study on lack of attenuation in sensory evoked potentials in people with functional movement disorders.

Neuropsychiatry Research Update

Valerie Voon introduced 'the world expert on Jerks' – Marina Tijssen, from the University of Groningen, Netherlands – an entertaining speaker who described jerks. Marina helped differentiate tics, myoclonus and functional jerks, working through clinical decision-making and investigations to help differentiate and treat each condition.



Marina de Koning-Tijssen

Day 2

Body Image And Self

Day 2 of the meeting was dedicated to the neuropsychiatry of body image, from the spooky 'phantomology' to 'neuropsychanalysis'.

As with day 1, we began with the background to this group of conditions. Michael Trimble from Queen's Square discussed the history and phenomenology of body image – from the Body Schema described by Head and Holmes to McDonald Critchley's Corporeal Awareness. He took the audience from Narcissus and Echo in mythology to modern day selfies on mobile phones and their role in shaping our body image.



Professor Trimble

Peter Brugger from University Hospital Zurich presented an entertaining lecture on Phantom phenomena. It began with him describing Phantomology, a term coined by Stanislaw Lem, as the Science of the Body in the Brain. He described Lem as a man before his time, who anticipated virtual reality and even cybersex. He described the occipito-parieto-insular networks serving integration of body and self and illustrated experiments on phantom phenomena with videos. He also described research on xenomelia, the desire for amputation of a normal limb.

Giuseppe Vallar from Milan described a series of studies on the phenomenon of unilateral spatial neglect. Amongst his examples, he described people who had neglect of the second half of a sentence. This was later questioned by a member of the audience about how this phenomenon would present in a population who read language from right to left

James Rowe from Cambridge started with clip from Hollywood, Dr. Strangelove, before moving on to more amateur videos of one of his own patients stealing coins from his pockets. He described the association between alien limb phenomena and corticobasal degeneration, explaining voluntary control and agency. Symptomatology including limb levitation, reaching for objects against the patient's will (and sometimes, a delusion of external control of a limb) as well as the sense that the patient's hand did not belong to them were explained.

Katerina Fotopoulou from University College London discussed a range of issues in 'Bodily Sense and Sensibility: Anosognosia, Asomatognosia and Anorexia'. Her talk had videos of simple but elegant bedside experiments using mirrors as she explained the role of 2nd person and socio-affective signals in disorders of body awareness.

Plenary Bnpa Medal Lecture

Prof. John Hodges from University of New South Wales presented a comprehensive summary of Frontotemporal Dementia, with updates and developments spanning several decades of his career. He described clinical presentations, pathology, imaging and genetics including the work around C9ORF72 mutations which has helped improve our understanding of FTD.

Diagnostic Masterclass

Members of the UK Functional Symptoms Research Group presented videos of clinical cases for the second diagnostic masterclass with Marina Tijssen encouraging the audience to think about differential diagnoses.

2015 being a UK general election year, politics featured on the BNPA programme. Darren Schreiber from University of Exeter presented 'Neuropolitics – your brain is built for politics', drawing extensively from his book of the same name. He described neuroscience experiments around modern human's participation in politics, even indicating towards prediction of party affiliation and election results

with high accuracy. On hindsight (am writing this piece after the May general election and 'shy tories'), the pollsters should have tapped into Darren's expertise!

The Evening reception at the museum of comedy in Bloomsbury provided much needed comedy relief after two intense days, with comedian Tony Vino and 'slam poet' Harry Baker hosting the evening.

Day 3

Memory Disorders – not just about Alzheimer's Disease' Jon Stone from Edinburgh described the high levels of cognitive symptoms in the general population and described the 'non-dementia' categories of diagnoses in a stimulating lecture. He also asked interested members of the audience to register to the functional neurology forum – www.fnforum.org/.

Adam Zeman from Exeter described 'New theories of memory systems and networks'. He discussed memory domains and described neuronal networks associated with them with a number of eye-catching neuroimaging slides. I recollected his mention of a 2009 paper by Seeley et al – Neurodegenerative Diseases Target Large-Scale Human Brain Networks, describing syndrome specific atrophy patterns.

http://findlab.stanford.edu/Publications/seeley_neuron.pdf

Thorsten Bartsch from the University of Kiel described Transient Global Amnesia as one of the remaining enigmas of neurology, with a number of suspected pathophysiological mechanisms of TGA but no firm evidence. He described how vulnerability of CA1 neurons in the hippocampus to metabolic stress could have a part to play.

Markus Reuber from Sheffield reviewed ideas and evidence about pathological Intrusive memories: déjà vu and flashbacks and also false memory. He explored the links of intrusive memories to nonepileptic attack disorder.

Plenary

This lecture summed up a lot of the discussion on day 1. In 'What do Imaging studies tell us about functional symptoms', Anthony David from Kings College London explored if functional neurological symptoms were consciously intended and whether the symptoms were

related to lived experiences and memories. He then reviewed the evidence around functional imaging as a lie detector, exploring the difficulties in coming to simplistic conclusions and proposed the presence of unhealthy patterns of connectivity that integrate emotional memories, perceptions and the motor system in people with functional symptoms.

The plenary set the stage for the closing debate.

The Debate

'Talk of Functional Neurological Symptoms (or Disorder) at best avoids the issue and at worst misrepresents it.' Was proposed by Alan House and Chris Bass and opposed by Alan Carson and Mark Edwards

Hugh Rickards from Birmingham chaired the debate that kicked off with an understated Alan House from Leeds arguing that 'functional neurological disorder' was a misnomer, specifically, it was the 'disorder' part of phrase FND that he objected to. Alan Carson responded with examples from his clinical practice and case series' from Edinburgh, justifying the need to call a spade a spade. Chris Bass from Oxford described how delving into people's backgrounds could help identify the underlying psychopathology and start the process of clinical improvement. He argued that a formulation was a much better way of summing up a person's difficulties. Mark Edward's comeback was entertaining – he described the role of stress in genesis of his functional tremor in the run up to the debate and drew attention to the success of the Queen's Square inpatient rehabilitation programme.

Members of the audience pointed out two distinct patient groups they see in clinical practice: one group with early life adversity presenting with long standing symptoms and another group presenting with relatively recent onset of symptoms and no previous abuse. One consultant who described himself as a 'jobbing clinician far away from London teaching hospitals' summed up the thoughts of several members of the audience who see large numbers of people with FND in their clinics, when he pointed out the utility of talking about functional symptoms in the 'real world' and the role of a label increasing the person's insight.

The vote at the end was surprisingly one sided, but marked the end of an educational and entertaining conference. Good show, BNPA organisers.

Conference Report

73rd Annual Scientific Meeting of the American Psychosomatic Association



Klaus Martin Beckmann

Consultant Child and Adolescent Psychiatrist
MRCPPsych, FRANZCP, MCAF

This March's 73rd Annual Scientific Meeting of the American Psychosomatic Association was the focus for ample neuropsychiatry. Key note speakers were many and included famous researchers like Christine Heim and John Cryan. I knew of the former from Nature Reviews 2009 Neuroscience "Effects of stress throughout the lifespan on the brain, behaviour and cognition". I knew of the latter from TEDMED, John Cryan et al investigate how the gut microbiome affects the diverse aspects of the brain in the context of the GI system. He was the wittiest speaker; his was the presentation on faecal transplants with humoristic exploits as indicated, notwithstanding that transfer of faecal bacteria is indeed a powerful innovation to trump multiresistent bacteria. Clostridium difficile for example in recent small trials has a remaining lethality of merely around 10%. Furthermore John Cryan's research on rodents shows how absence of gut bacteria impact adversely on the blood brain barrier. There were talks on positive emotions and the happiness – health connection, deep brain stimulation and brain and mind interactions. I was interested to see that there were so many topics relevant to childhood trauma following abuse. Many presented on the impact of childhood trauma on the neurological wiring of the brain. Basic sciences I hope may one day even more inform clinical practice for childhood PTSD.

I particularly found useful the late in the day poster sessions where I could meet senior academics and students alike, all keen to have a discussion and inform

on their research. As mandated by the organising committee I sought the necessary consents to report on selected posters as below.

Nicole R Feeling presented findings from her group. So far no study has addressed whether resting state heart rate variability (HRV) is associated with performance on a memory encoding/retrieval task. It is known that individuals with high HRV have better recall for memories. Moreover no previous study has examined whether there is a link between HRV and the ability to distinguish between true and false memories. 94 undergraduate students participated in her groups' study. Results suggest that those individuals with a higher baseline resting HRV are better able to discriminate between true and false memories in a memory retrieval situation. This likely has implications for memory retrieval and encoding. This group suggests that this research may well have implications for eye witness testimonies etc. that "resting vagally – mediated HRV" may be a proxy to memory abilities.

Dina Tell from Chicago presented a poster on her group's behalf: "chronic stress and childhood adversity modulate vagal and stress immune response to the TSST (Trier Social Stress Testing) in women with breast cancer". They conclude that assessment of exposure to childhood adversity may identify patients at risk for increased inflammatory and also behavioural responses associated with cancer related stress. Women with breast cancer, current social and financial stressors and childhood adversity show a greater stress induced proinflammatory response as measured in salivary IL – 6 and IL – 1 beta response to TSST.

What relaxation etc can do to MIC -1 was so far not known. Iris Emerman and her group looked at patients with an elevated risk of breast cancer due to family history over 2 time points: relaxation practice such as CBSM (cognitive behavioural stress management) during stress management intervention can be associated with changes in biomarkers; macrophage inhibitory cytokine - 1 (MIC-1) increases with age but has so far not been investigated in context with psychological stress. Increased MIC -1 and also IL-6 are associated with carcinogenesis and cancer progression. This group found that between the 2 time points increased relaxation time was associated with lower concentrations of age associated bio markers.

“ Years on from early childhood trauma the after effects depend on age at first assault and trauma and which type of trauma.

Whether recent negative life events moderate the association between childhood Socio Economic Status (SES) and inflammation among midlife adults, is being investigated by Neha A John- Anderson et al. Her group hypothesized that combination of low childhood SES and high levels of recent negative life events would associate with highest levels of both circulating and stimulated Interleukin 6 (IL-6). They found that the subjective measure of childhood SES was a better predictor of IL-6 than an objective measure of childhood SES. However if there was recent adversity then this appears to moderate IL-6 in individuals where subjective measure of low SES was a better predictor.

Alexander Winkler et al add to what is known about placebo response in the pharmacotherapy of primary insomnia. They conducted an effect size analysis: comparing subjective and objective data from known RCTs assessing the proportion of placebo response to hypnotic medications. They subtracted mean placebo response from mean drug response and found that a small but significant effect size was evident in objective physiological sleep variables. They add to the evidence that a substantial part of drug responses are due to placebo effects.

Su Shaoyong presented on the Georgia longitudinal study. Increase in systolic BP is associated with a history of several types of abuse. Diastolic BP is not affected. The extremely deep type transcendental meditation (TM) yields great breakthrough in treatments for PTSD. Vernon Barnes on behalf of his group presented data promoting the benefits of TM. In addition to clinical benefits patients who gained the skills in TM needed significant less psychotropic medications for PTSD and anxiety.

Years on from early childhood trauma the after effects depend on age at first assault and trauma and which type of trauma. Kate Ryan Kulman and her group presented on "Type and timing of childhood trauma and adolescent neuroendocrine functioning". HPA axis regulation was estimated by salivary cortisol measurements. They found that more physical abuse was associated with faster activation of HPA axis to acute stress. More emotional abuse was associated with slower recovery of the HPA axis following acute stress. Exposure to first trauma during infancy may impair diurnal regulation of cortisol for i.e. males, resulting in less steep decline in cortisol during the day. This does not apply to females. The authors hypothesize that whatever harm the initial trauma did: any psychological or physical damage is magnified by later effects: early trauma may impede the glucocorticoid receptors in hippocampus and also impair the organising role of gonadal hormones on the HPA axis later on.

A negative result from 5 year RCT follow up study in the field of PTSD research was presented by Y Matsuoka's group from Japan. Following a selection process 110 patients were randomised. All bar one of the 53 participants who received DHA had confirmed compliance with sufficient amounts of unsaturated fatty acids. The Clinician administered PTSD scale did not yield a significant difference compared to the placebo group over the time of this study.

IT and apps have an increasing role in medicine. H.M. Schenk and her group from Holland build on what is known already about affects: individuals with a negative affect (NA) have more somatic symptoms (SS) compared to individuals with a positive affect (PA). They looked at the "between subjects and within subject association" of NA, PA and SS. Participants were enrolled via website "hownutsarethedutch.com". Results show

striking differences. PA is of significant advantage and a protective factor at a within subject level. They critique previous research which focussed on in between PA and NA only. Within subject association should not be missed. Beyond long days at the scientific meeting I found that Savannah is a great place to spend a few days. The political capital of Georgia is Atlanta; however Savannah boasts the second busiest harbour of USA, after New York and Newark harbours taken together. It is a picture to witness when at a session grand Ocean Cargo vessels

sail past the congress venue at merely a few 100 feet away. The old town is spectacular with many building more than centuries old extremely well preserved as Savannah was not damaged during the civil war and also has regular incomes from for example Cotton export and of course trading associated with harbour activities. Savannah has a thriving nightlife and art scene as there is an exchange in art schools with New York. The conference coincided with the Annual Music festival and many venues accommodated local musicians and from far afield. It is likely that future APA meetings will be at equally comfortable and stimulating venues. If it were Savannah again, then a good pre-read may be John Berendt's "midnight in the garden of summer and evil".

Abstracts

Spatial navigation is impaired in patients with cognitive impairment and neuropsychiatric co-morbidity



Dr Roxanne Keynejad¹, Ms Hana Marková MA², Ms Kamila Šiffelová MA², Mr Naveen Kumar¹, Dr Ellen Migol, Dr Kamil Vlček³, Assoc Prof Jan Laczó², Prof Jakub Hort², Prof Michael Kopelman¹.

¹ King's College London; ² Charles University in Prague; ³ Academy of Sciences of the Czech Republic, Prague.

Introduction

Spatial navigation is a process of determining and maintaining a trajectory from one place to another (Séfolène et al., 2012). There are two main types of navigation strategy (*Table 1*):

Table 1

Egocentric	Allocentric
Self-centred	Bird's eye view
Viewpoint dependent	Viewpoint independent
Uses distances/angles to/from landmarks	Learning positions of landmarks in relation to other landmarks
May rely on cortico-striatal brain regions (Wolbers et al., 2004)	Relies on medial temporal lobes, notably the hippocampus (Burgess et al., 2002)

Spatial navigation in dementia and neuropsychiatric disorders

- Impairments in spatial navigation are seen in Alzheimer's Disease (AD) and mild cognitive impairment (MCI; Laczó et al., 2009).
- Using the Hidden Goal Task, AD patients are impaired on all test types. However, in amnesic MCI, only allocentric navigation is impaired (Hort et al., 2007).
- Spatial navigation and spatial memory are impaired in affective disorders (Cornwell et al., 2007; Gould et al., 2007) and psychosis (Daniel et al., 2007).
- MCI can often be accompanied by other neuropsychiatric conditions but these patients are usually excluded from studies (Stephan et al., 2011).
- We wanted to see whether neuropsychiatric co-morbidities influenced MCI spatial navigation performance, as this has not been studied previously.

Table 2

	HE (n=22)	comMCI (n=22)	MCI (n=21)
Age (years)	65.77 (\pm 6.38)	62.27 (\pm 7.46)	68.10 (\pm 10.05)
Education (years)	15.82 (\pm 2.74)	13.68 (\pm 4.17)	14.10 (\pm 3.70)
MMSE out of 30	29.09 (\pm 1.44)	25.73 (\pm 3.21)*	26.14 (\pm 2.85)*

Methodology

Participants

MCI patients with co-morbid mood or psychotic disorder or alcohol abuse (comMCI) were recruited from the St Thomas' Hospital Neuropsychiatry and Memory Disorders Clinic, London. MCI patients without neuropsychiatric co-morbidity (MCI) and healthy elderly (HE) participants were recruited from the Memory Disorders Clinic of Motol University Hospital, Prague. Groups were matched on age, MMSE and years in education (Table 2; * $p \leq 0.001$):

Method

All participants completed the Hidden Goal Task (HGT) and a Mini-Mental State Examination (MMSE).

How do we measure Ego- and Allocentric navigation?

One well-validated method is the Hidden Goal Task (HGT), a human analogue of the Morris Water Maze (Kalova et al., 2005). Participants locate a goal in a larger area (circular space) on a computer. It can be varied to have four subtests (Figure 1):

1. Allocentric + Egocentric / 2. Egocentric 3. Allocentric / 4. Delayed recall (Allocentric)

Participants have to learn where a goal is, then try to find it again when it is hidden. The outcome measure is distance from the goal, where a smaller number indicates better performance.

(red circle), orientation cues (red and green lines) and goal (purple circle) marked. Participants must move from the start point to the goal; (B1) Egocentric trial. Participants have to find the goal again when it is hidden, using the start position; their guess is indicated by the white dot. (B2) Allocentric trial. Participants have to re-find the goal after the arena has rotated, using memory of where the orientation cues and goal were in relation to each other.

Results

After assessing normality of distribution of demographic characteristics using the Kolmogorov Smirnov test, we used one-way ANOVA to assess between-group age differences and the Kruskal-Wallis H test and Mann-Whitney U tests with multiple comparisons for all other results; significance level set at $p < 0.016$ (Bonferroni correction).

MMSE

HE scored higher than comMCI and MCI ($p \leq 0.001$).

Allocentric Navigation (Fig. 2)

comMCI and MCI were impaired compared to HE ($p < 0.01$).

Delayed recall

comMCI and MCI were impaired compared to HE ($p < 0.01$).

Egocentric Navigation (Fig. 3)

comMCI only were impaired, compared to HE ($p \leq 0.001$).

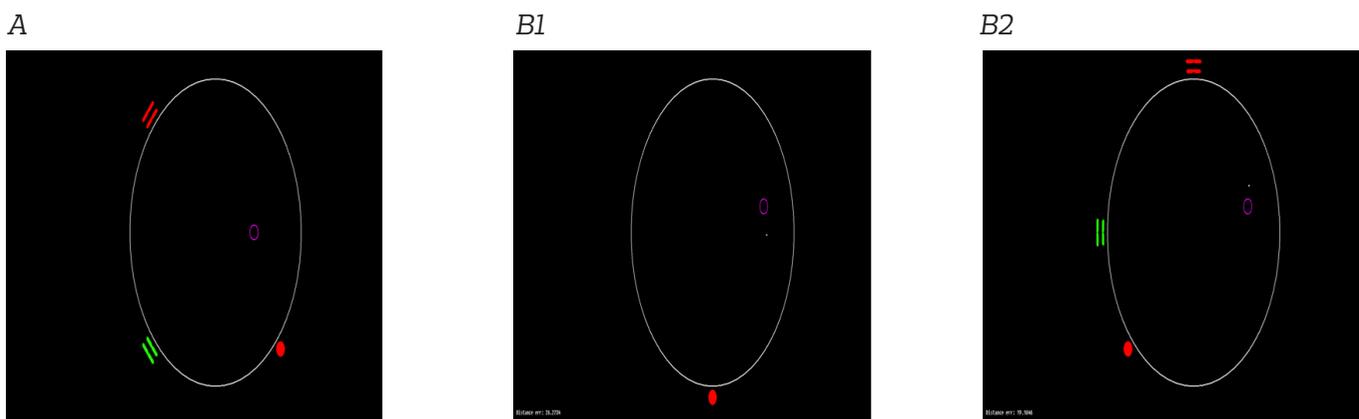


Figure 1: (A) Arena (large white circle) with start point

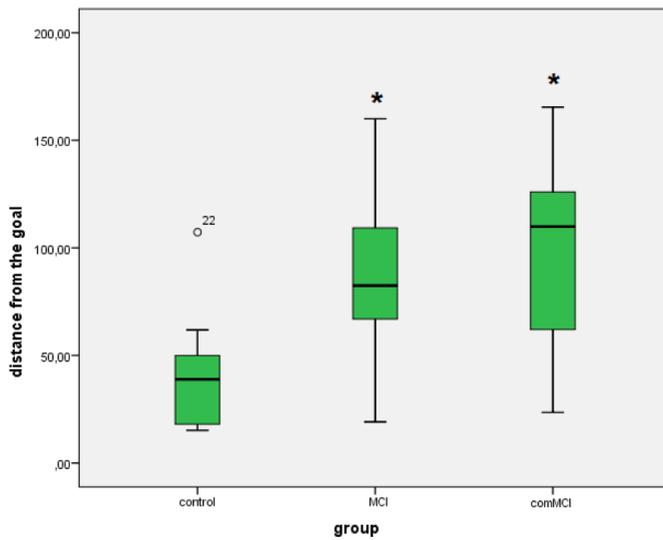


Figure 2: Allocentric task performance by group as indicated by median, inter-quartile range. * = p level in comparison to HE.

Discussion

Spatial navigation deficits seen in MCI also occur in MCI and neuropsychiatric co-morbidity or alcohol abuse. These patients show similar patterns of spatial navigation deficits as MCI patients with the same degree of cognitive impairment, without psychiatric co-morbidity.

However, comMCI patients were even more impaired at egocentric navigation.

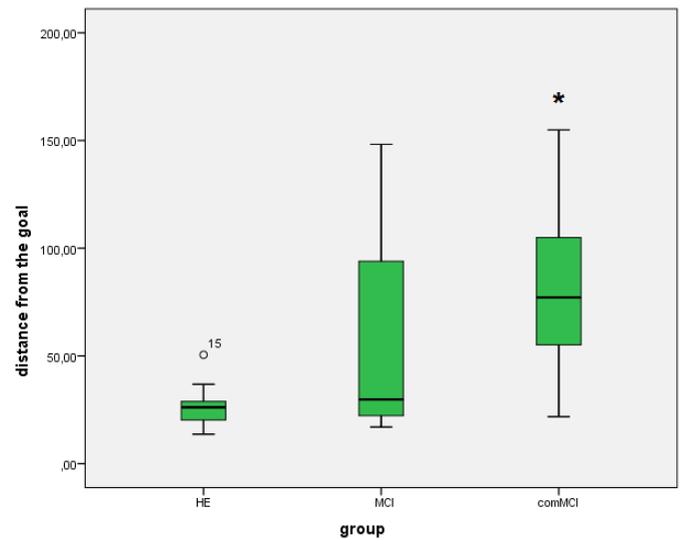


Figure 3: Egocentric task performance by group as indicated by median, inter-quartile range. * = p level in comparison to HE.

Conclusions

Spatial navigation deficits in people with MCI and co-morbid neuropsychiatric disorders were more complex than MCI.

Clinically, patients often have comorbidities. Since trials often assess 'pure' MCI, we may underestimate navigation and other deficits, for which more support may be needed.

This finding requires further study using a larger sample size, perhaps including neuroimaging techniques to visualise affected brain regions.

Audit of the quality and consistency of Old Age Psychiatry Memory Clinic Letters to General Practitioners in Hertfordshire

**Dr Laura Midgley
& Dr Charlotte
Zheng**

FY2 Royal NHS Trust
& CT1 Lewisham and
Greenwich NHS Trust

INTRODUCTION

Memory clinic letters are a vital means of communication between primary and secondary care.

High quality letters are paramount to keep GPs informed about the diagnosis and current treatment plan and in aiding the delivery of optimal care.

The letters are an invaluable source of clinical information for other members of the MDT, especially during on-call or out-of-hours.

GPs in Hertfordshire had raised concerns over the quality and consistency of the memory clinic letters.

This audit was undertaken to assess these concerns and to try to identify areas for improvement in the letters written from Old Aged Psychiatrists to GPs.

AIMS

- To analyse whether memory clinic letters were consistent in format
- To analyse whether letters contained the key information GPs wanted to be informed about

- To recommend and implement a new format for memory clinic letters in Hertfordshire

STANDARD

Najim & Loughram (2012) undertook a cross sectional study of GPs to identify the elements which GPs deemed essential to be included in psychiatric clinic letters. Based upon this, the recommendation was for 100% compliance in all criteria deemed essential by more than 50% of GPs in the study.

METHODS

- A sample of letters was generated by using all the memory clinic letters written in the month of July 2014 by Hertfordshire based psychiatrists.
- This sample incorporated the letters of 11 Old Age Psychiatry Consultants.
- 19 key criteria were identified using the Najim and Loughram study. The most important criteria are shown in *Figure 1* on the next page.

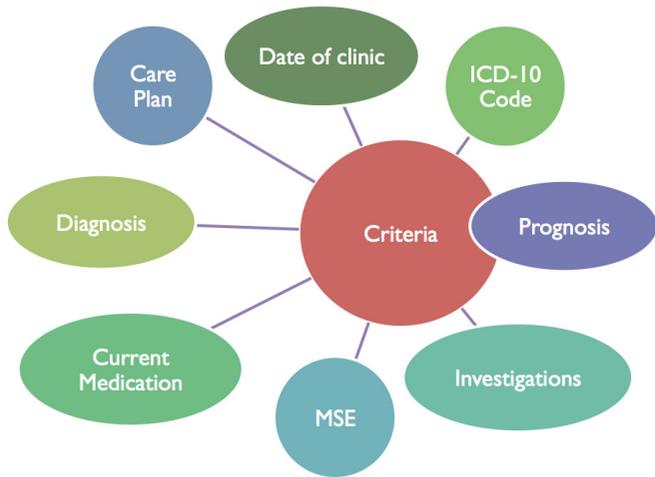


Figure 1: Examples of the criteria used to audit the quality of the clinic letters.

- GPs had stated that they wanted the diagnosis and ICD-10 code clearly documented at the start of the letter, so these aspects were also analysed.
- A total of 133 letters were analysed against these criteria to determine the
- proportion of the consultants' clinic letters which contained each of the key criteria.

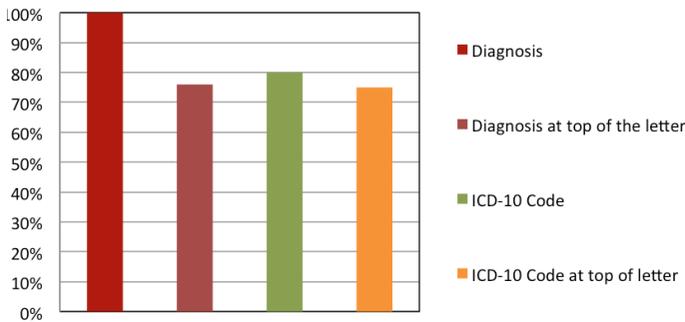


Figure 2: A graph to show the percentage of letters containing specific criteria.

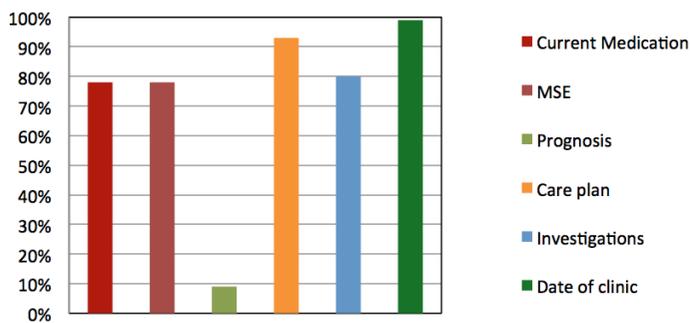


Figure 3: A graph to show the percentage of letters containing specific criteria.

DISCUSSION

It is evident that memory clinic letters do vary in terms of consistency and quality when compared with the essential letter criteria determined by GPs. Whilst nearly all letters contain the diagnosis and memory clinic involvement; there are other areas where further improvement is needed to ensure elements are included, such as ICD-10 code, medication and prognosis.

This information is important for ensuring accurate and informed communication between primary and secondary care and to enable good continuity of care. This audit led to the implementation of a new template. This template aimed to increase compliance to 100% for certain criteria.

These criteria are included in the template, shown below in Figure 4.

MEMORY CLINIC TEMPLATE

Patient's name:	Date of clinic:
DOB:	Current psychotropics:
NHS no:	Medication changes:
Diagnosis:	Who will prescribe:
ICD-10 code:	Investigations arranged:
Care package and follow-up:	

Figure 4: Template for use in memory clinics.

References

Najim H, Loughram M. Analysis of GPs' opinions of new patients' psychiatric assessment letters. *Progress in Neurology and Psychiatry.* 2012. 16(6): 12-15. for collation and data interpretation.

Abstracts

Establishing a novel psychiatrist-led outpatient service for traumatic brain injury

Christoph Mueller^{1,3}
 Alice Brooks¹
 Christos Kouimtsidis²
 Paul Sullivan³
 Vanessa Raymont¹

1 Hounslow Pilot Clinical Service for Acquired Brain Injury, West London Mental Health NHS Trust

2 iHEAR Partnership Hounslow, Surrey and Borders Partnership NHS Foundation Trust

3 NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Northwest London, Imperial College, London

Background

Each year an estimated 1 million people attend hospital emergency departments in the UK following a Traumatic Brain Injury (TBI).

These patients frequently have a wide range of cognitive, psychiatric, behavioural and social problems.

Current legislation for brain injury (NSF, 2005)¹ and alcohol use disorders (NICE, 2011)² highlights the limited access to specialist services which can provide a holistic assessment specifically designed to meet the needs of these patient populations.

Alcohol misuse and dependency is common both pre and post TBI.

At present most TBI patients fall through the gaps of clinical mental health and neurological services as those services are aimed primarily at adult mental illness, dementia or neurological illnesses.

A&E, psychiatric liaison and medical teams as well as complex specialist and district specialist rehabilitation services for acquired brain injury find it difficult to arrange appropriate follow-up for this patient group.

The Hounslow Pilot Clinical Service for Acquired Brain Injury

A pilot specialised psychiatric and psychological clinical service for TBI was established at West London Mental Health Trust in May 2015 using a novel, community psychiatry model, which includes a brief alcohol intervention for all attendees.

The service runs an outpatient clinic staffed by a psychiatrist, a psychologist and a community psychiatric nurse.

It provides neuropsychological and community-based psychiatric treatments, plus further nursing outreach to monitor the effectiveness of treatment plans.

Assessment includes baseline psychiatric, cognitive, quality of life and alcohol use measures, which are repeated at 3-month follow up appointments.

“

Each year an estimated 1 million people attend hospital emergency departments in the UK following a Traumatic Brain Injury

”

All patients referred to the clinic are seen by a Hounslow iHEAR alcohol liaison nurse and receive a brief intervention to prevent or treat alcohol problems.

Referrals are accepted from West Middlesex University Hospital A&E, WMUH inpatient wards, WMUH Liaison Psychiatry and community brain injury rehabilitation teams in West London.

Of the referrals received from May – August 2015, the majority of patients was male and the median age was 45 years (Interquartile range \pm 36 years). About one third had a significant history of alcohol misuse, while only every tenth patient acquired the head injury while intoxicated. More than half of the referred patients had a previous A&E attendance and one-fifth a previous traumatic brain injury (see *Figure 1* & *Figure 2*).

Implementation

The implementation of the TBI clinic was supported by the Collaboration for Leadership in Applied Health Research and Care (CLAHRC) in Northwest London (NWL). We are using the action effect method³ to identify potential interventions and outcome measures. Focus groups with patients and carers were carried out to identify the needs of this group.

A qualitative research project using semi-structured interviews aims to describe the "Experiences of patients and carers referred to a newly established brain injury clinic and their expectations of the service". Themes identified in these projects fed into the development of an Action Effect Diagram (see *Figure 3*). This also informs a user involvement strategy that was devised using the 4PI National Involvement Standards⁴.

Conclusions

Given the range of long-term needs after TBI, a specialised psychiatric and psychological community based service is ideally placed to address these multi-factorial problems.

The novel service is truly cutting edge in the nature of its work, and brings together a range of disciplines to provide a holistic service for such patients and their families.

The inclusion of a brief alcohol intervention is an innovative treatment which may address the long term risks of alcohol misuse in TBI.

References:

- Department of Health (2005). The National Service Framework for Long-term Conditions.
- National Institute for Health and Clinical Excellence (2011). Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence (Clinical Guideline CG115).
- Reed JE, McNicholas C, Woodcock T, et al.** (2014) Designing quality improvement initiatives: the action effect method, a structured approach to identifying and articulating a programme theory. *BMJ Qual Saf* 2014;23:1040–1048
- The National Involvement Partnership 4PI National Involvement Standards (NSUN, 2013).

Disclaimer:

This article presents independent research commissioned by the National Institute for Health Research (NIHR) under the Collaborations for Leadership in Applied Health Research and Care (CLAHRC) programme for North West London. The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

Figure 1:
Age distribution of patients referred to the TBI clinic

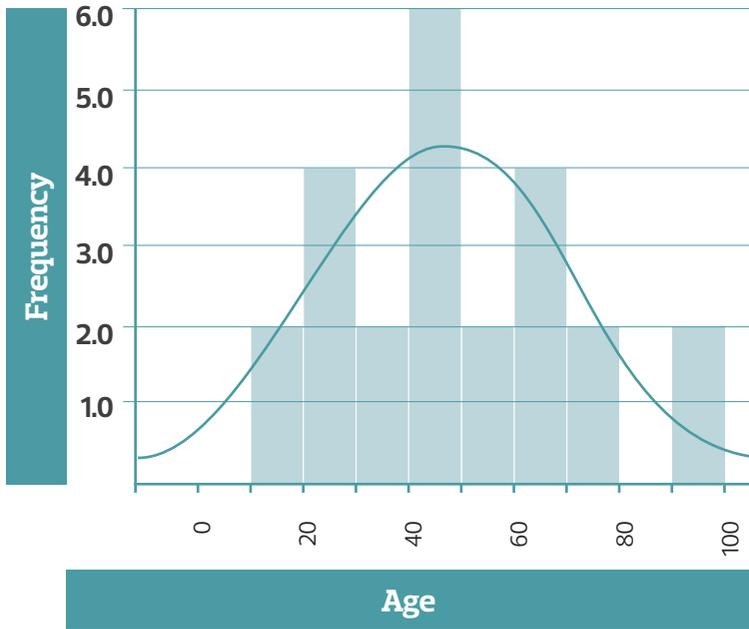


Figure 2:
Characteristics of patients referred to the TBI clinic

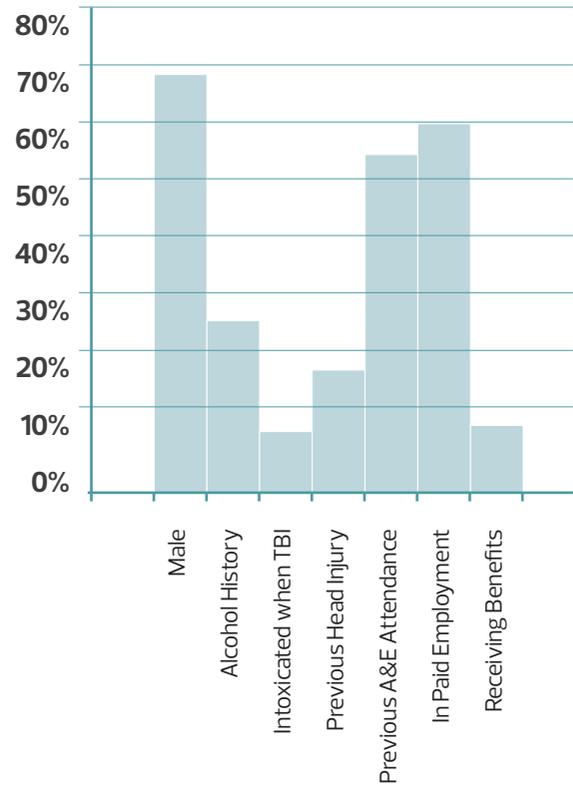
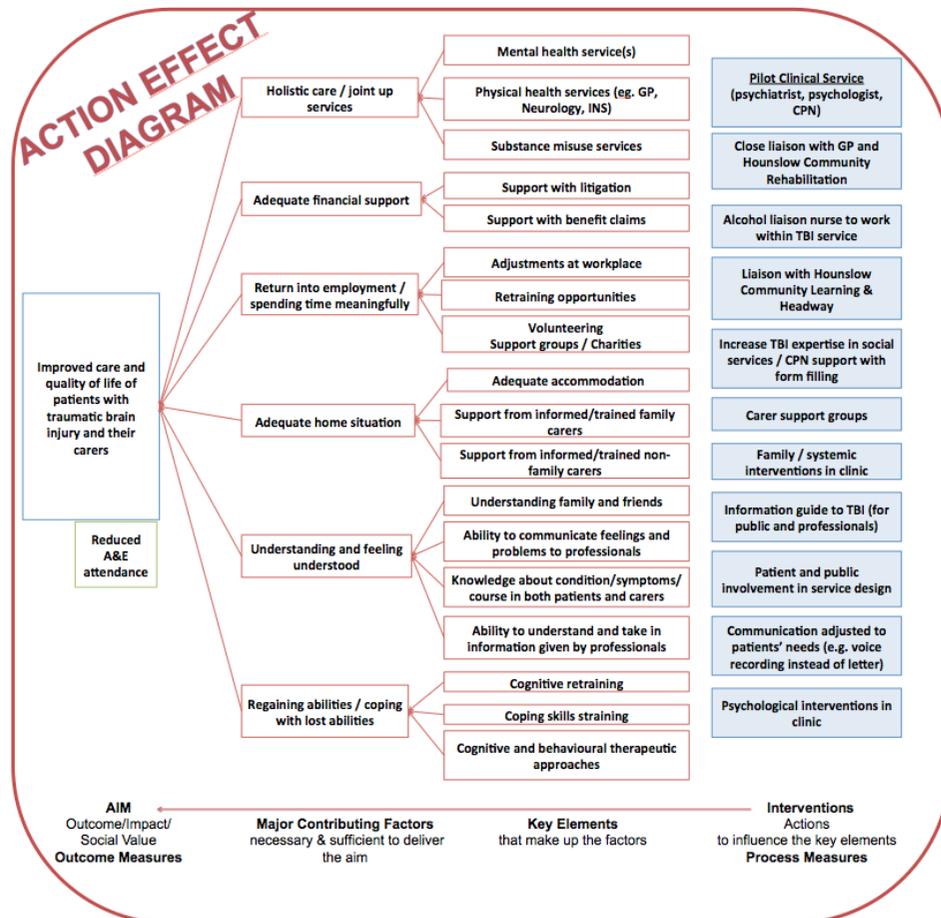


Image 3:
Action-Effect-Diagram



Acute severe depression induced by stimulation of the right globus pallidus internus

**Johanna Philipson, Rickard Sjöberg
and Patric Blomstedt**

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Introduction

It is well known that depression may occur after STN (Subthalamic Nucleus) DBS. This has often been attributed to the marked reduction of L-dopa postoperatively, and not to a direct effect of STN stimulation. Several cases have, however, been presented with acute stimulation induced depression following STN DBS. Pallidal DBS seems not to be associated with depression, and to the best of our knowledge, acute stimulation induced depressive symptoms have never been reported after pallidal DBS.

Methods

We present a patient with acute depressive symptoms induced by pallidal DBS.

Results

The patient was a 64 years old male operated with bilateral pallidal DBS for Parkinson's disease with severe on-off phenomena. No complications occurred in relation to the procedure. When the stimulation was initiated 4 weeks after surgery, stimulation of the left electrode resulted in a clinical improvement and no side effects of interest. Unilateral stimulation of either of the two deepest contacts on the right electrode

did, however, cause an unexpected side effect at monopolar stimulation with 0.5 V, 60 μ S and 130 Hz. About 2 seconds after the stimulation was started, the patient's face was distorted by an expression of severe sorrow. He started to sob and cry, and buried his face in his hands. He explained that he felt the deepest sorrow he had ever felt. When turning the stimulation off the patient recovered completely within a few seconds. The patient was tested in a blinded condition with stimulation and sham-stimulation, and the findings were objectively reproducible. A less pronounced effect was also seen at the third deepest contact, but at higher stimulation strength. The following day the test was repeated and documented, as demonstrated above, and the same phenomena occurred, however, somewhat less pronounced, and only when 0.8 V was reached. One month later the threshold had increased further, and the phenomena diminished further in strength, thus chronic stimulation was initiated at a low voltage. However, despite numerous attempts of optimizing the stimulation, it was not possible to achieve motor improvement without depressive symptoms. Two years after surgery further attempts were aborted and the right electrode was turned off.

Conclusion: In the case here presented, stimulation at the medial border of the right globus pallidus internus resulted in acute depressive symptoms. We believe this case strengthens the hypothesis that the basal ganglia and structures involved in the functional connectome of these nuclei, play a role not only in regulation of movement but also in regulation of mood.

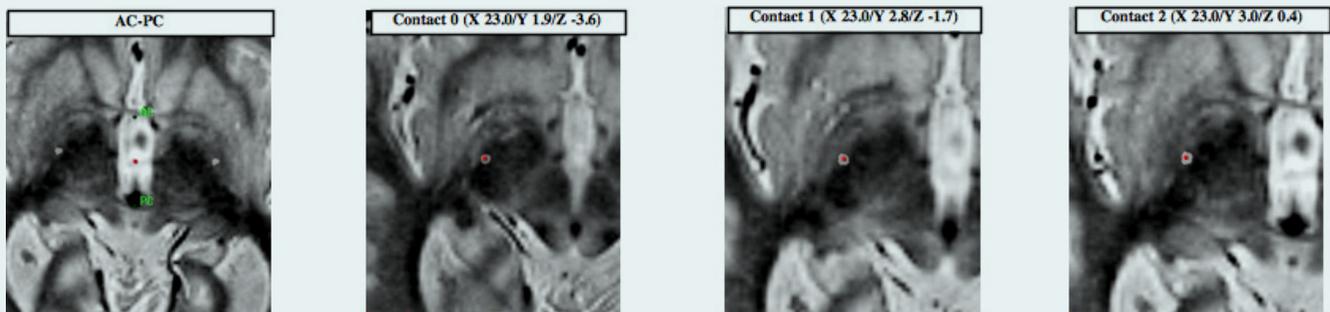


Fig 1. Before stimulation.

Fig 2. Deep sorrow starting within a few seconds after initiation of stimulation and culminating after ten seconds.

Fig 3 – 5. The sorrow diminish gradually. After 1 minut (*Fig 5*) the patient feels only "unhappy". The same emotional cykel was repeated when increasing the stimulation strength with 0.3 V.

Fig 6. Immediately when the stimulation was turned off the patient described a "fantastic" sensation of joy.



Location of electrode contacts: Postoperative stereotactic CT fused with preoperative MRI. At the AC–PC plane the electrodes are seen to be relatively symmetrically placed within the right and left Gpi. **Contact 0** of the right electrode is too medially placed. **Contact 1** is in the Gpi, but encroaching on the internal capsule. **Contact 2** is placed within the posteroventral part of the Gpi.

Neuropsychiatry Regional Representatives needed

Neuropsychiatry Regional Representatives needed
There are a few vacancies for Neuropsychiatry Regional Representatives currently available:

- **Oxford Region, South Eastern Division**
- **Wessex Region, South Eastern Division**
- **KSS Region, South Eastern Division**
- **Eastern Division**
- **Trent Region, Trent and West Midlands Division**
- **South East London Region, London Division**
- **South West London Region, London Division**
- **North West London Region, London Division**

Regional Representatives assist the Regional Advisors by assessing new consultant and specialty doctor job descriptions so that the Regional Advisor can reply appropriately to trusts. The majority of job descriptions need some alterations to be made to bring them into line with College aspirations and standards. In the smaller subspecialties there are relatively few new job descriptions, so the role is not arduous, but nevertheless very important as it is the main way in which the College can influence trusts to maintain high quality and training standards when they are planning new posts.

Becoming an Regional Representative is an ideal way for someone to become more involved in the work of the College without taking on a high level of time commitment.

Regional Specialty Representatives will:

- **have a keen interest in maintaining standards of Consultant and other career grade Psychiatrists**
- **be full, current members of the College**
- **have held a substantive Consultant post for at least three years**
- **be in good standing with the College for CPD**
- **be able to fulfill the requirements of the post**
- **have discussed the role with their employer and the employer is content to allow the time needed to carry out the role**
- **be up to date with their membership fees.**

Anyone interested in taking up one of these posts should contact your local division office for further details – www.rcpsych.ac.uk/workinpsychiatry/divisions.aspx

The Gosling Fellowship

To Members Of The Academic And Neuropsychiatry Faculties

Due to a generous gift from the Gosling Estate, the Royal College of Psychiatrists would like to award the sum of £5000 each to two Psychiatry trainees specifically for the purpose of enabling them to complete a research project in the area of Neuropsychiatry as part of their psychiatry training programme.

The award can be used for anything that is directly needed for the research project, as justified in the application.

Applications will be judged against the following criteria:

- The academic achievements shown by the candidate to date, based upon their CV and references.
- The academic value of the proposed research project.
- The future academic plans, and academic potential, of the candidate.

Prize: 2 prizes of £5,000 each

Eligible: Applicants must hold the MRCPsych and can be at any stage of training on an Approved Psychiatry Training Scheme in the UK.

Closing date: **31 May 2016**

Submissions to:
Chair, Academic Faculty
The Royal College of Psychiatrists
Via: kitti.kottasz@rcpsych.ac.uk

Regulations:

- 1** Applicants must work in the UK.
- 2** Applicants should submit their application – including the following – by email:
 -
 - A** 2–page CV including research experience, publications/presentations, career aims.
 - B** 2–A4 page (Ariel 11 font) outline of their research project which should include the following:
 -
 - I** Aim of the project
 - II** A short background as to why the topic is important
 - III** Design and methods
 - IV** Research outputs
 - V** How the work will enhance the applicant's career
 - VI** Justification for how the money will be spent
 - C** A letter from the Research Supervisor should be included outlining the supervisory arrangements (including name of supervisors and verifying that they have agreed to supervise the work).
- 3** A panel convened by the Academic Faculty of the Royal College of Psychiatrists will assess and (if necessary) interview the candidates.
- 4** As a condition of accepting the award the candidates are expected to present their work at the International Congress of the Royal College of Psychiatrists when completed.

