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Medical History

William Alexander (1844-1919): Contributions to Gynaecology and Neurology

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SUMMARY

William Alexander was born in Country Antrim and trained in Belfast before moving to Liverpool where he spent the entirety of his clinical career. His first interest was in surgery, ample opportunity for which was afforded by his appointment to the Liverpool Workhouse Infirmary, and subsequently to the Royal Southern Hospital, Liverpool. He pioneered new surgical techniques in both gynaecology and neurology, none of which has survived, but a more lasting contribution was the founding of a dedicated Home or Colony for Epileptics in Maghull, a model of care which was subsequently adopted in other centres in the United Kingdom and in the USA and Australia.

INTRODUCTION

The fluidity of professional boundaries in medicine and surgery in the late nineteenth and early twentieth centuries made it possible for an individual clinician to have broad interests of a kind that would not be permissible in today's more structured and competence-based medical profession. Although specialist hospitals for particular categories of patient or disease had been established in some of the major metropolitan centres in the course of the eighteenth and nineteenth centuries, specialisation was still looked down upon in many quarters. Hence it was possible for William Alexander to develop expertise in, and make contributions to, both gynaecology and neurology.

EARLY CAREER

William Alexander (Figure 1) was born in Holestone, Country Antrim, in 1844. He received his medical education at the Queen's College, Belfast. His obituary records a brilliant student career, winning many scholarships and prizes, before graduating in 1870 and obtaining the gold medal and exhibition. Thereafter he travelled to Liverpool, where he was appointed to the full-time post of Resident Medical Officer at the Liverpool Workhouse situated on Brownlow Hill in May 1872. It was here that he reportedly developed the "remarkable skill which made him one of the leading surgeons in the north of England". In 1875, he set up in general practice in Rodney Street, Liverpool, and two years later, in 1877, he became a Fellow of the Royal College of Surgeons (FRCS).[1,2]

Fig 1. Alexander's portrait by Copnall, reproduced from Macalister (opposite p.121).[3]

In 1883 Alexander was appointed Honorary Medical Officer to the Liverpool Central Relief and Charity Organisation Society, a philanthropic body which sought to help the poor of the city, an appointment which was in due course to have significant repercussions. He was Surgeon to the Royal Southern Hospital, Liverpool, from 1889 to 1910, and Visiting Surgeon to the Brownlow Hill Infirmary. In his history of the Royal Southern, Macalister reports that Alexander maintained a general practice until comparatively late in his career, and

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that the "gynaecological work in the Hospital was carried out by … William Alexander between … 1888 and 1910 as a branch of general surgery". He described Alexander as a "diehard so far as antiseptics were concerned",[3] a topic Alexander published on as late as 1886, although he combined them with modern aseptic surgery.[4]

GYNAECOLOGY

Gynaecological surgery formed a substantial component of Alexander's work, both at the Workhouse and at the Royal Southern, and appears to have been the subject of some of his earliest identified publications in 1881.[5,6]

His claim to eponymous fame rests on his description of an operation to correct the position of the retroflexed uterus by shortening of the round ligaments, which he reportedly first undertook in December 1881,[7] and first reported in a paper published in 1882, followed by a monograph of 1884.[8,9] (A paper on the subject was "promised" at the 51st annual meeting of the British Medical Association in Liverpool in July/August 1883.) However, "Alexander's operation" had in fact been previously suggested by the French surgeon Alexis-Jacques Alquié (1812-1864) in 1840**,** although Alexander was apparently unaware of this precedent,[7] and hence is sometimes known as the Alquié-Alexander operation. James Adams (1818-1899) in Glasgow also performed this surgery, apparently from February 1882 onwards, again apparently without Alexander's knowledge.[7] The procedure enjoyed some popularity at the end of the 19th century.[10-12]

As Macalister indicates, Alexander's work in gynaecological surgery continued, culminating in a large work on "Practical gynaecology" published in five instalments in the *Liverpool Medical-Chirurgical Journal* between 1897 and 1899, running to over 100 pages.[13] Therein Alexander reported that for backward displacements of the uterus "I only perform one operation, and that is shortening the round ligaments".

NEUROLOGY: TREATMENT OF PEOPLE WITH EPILEPSY

Alexander was interested in experimental surgical approaches to epilepsy. His operations included trephination of the skull,[14] removal of the superior cervical sympathetic ganglia, and ligation of the vertebral arteries. The latter approach, prompted by the belief that the medulla was the origin of epileptic seizure activity, was developed in the early 1880s, (contemporaneous with the surgery for retroflexed uterus, the papers appearing in the same volume of the *Medical Times and Gazette*).[15,16] However, by the time of his monograph on the treatment of epilepsy, published in 1889, the initial optimism for vertebral artery ligature had waned to such an extent that the operation was abandoned in favour of cervical sympathetic ganglionectomy, much of the book being devoted to case histories of this operation (numbers of which mention that surgical dressings were changed "under the spray").[17] Later still, trephination and fenestration of the dura mater became his approach in selected cases.[18]

Despite his interest in gynaecological surgery, there is no evidence that Alexander ever undertook such operations to try to treat epilepsy, as his Liverpool contemporary Francis Imlach had (controversially) done.[19]

What about medical therapy for epilepsy? The comments of the gynaecologist Sir Charles Locock reported in the medical press in 1857 (e.g. *Lancet*, i:528) are credited with bringing bromides, the first partially effective medication for epilepsy, into widespread use, but Macalister reported of Alexander that "At a very early period he concluded that the routine use of potassium bromide in epilepsy was inadvisable and often harmful and he limited its employment considerably".[3] Certainly excessive bromide could have detrimental effects, although numbers of patients reported in Alexander's monograph were taking them.[17] In a later report, he stated:

> The medical treatment that we have found most beneficial and least harmful has been a scruple each of bromide of soda and of borax three times a day, well diluted in barley water and given after the three chief meals of the day.[20]

NEUROLOGY: CARE OF PEOPLE WITH EPILEPSY

Working together with Henry Cox in the Central Relief and Charity Organisation Society committee, Alexander saw the need for provision for people with chronic epilepsy. This was an era when "epileptics", as people with epilepsy were then termed, were marginalised and stigmatised. Their tendency to seizures meant that sustained employment was seldom available and for want of sustenance patients often ended up dependent on the Poor Law and hence accommodated in workhouses; no doubt Alexander saw numbers of them in the Liverpool institution. The only other recourse for those who could not be supported by their families was the asylum, although it was recognised that this was not appropriate for numbers of so-called "sane epileptics".

Alexander and Cox initiated a plan to open a home for people with epilepsy near Liverpool. Alexander reported that:

> In the early part of the year (1888) I was consulted as to the desirability of establishing a hospital for epilepsy in Liverpool, by a philanthropic gentleman, who saw the great difficulties in the treatment of the disease, that both doctors and patients laboured under.
>
> I immediately objected to a hospital for such cases, … but proposed a home in the country, where work, treatment, education, and all good influences could be brought to bear …[17]

This plan was modelled, at least in part, on the Bethel Epileptic Colony founded in 1867 at Bielefeld, Westphalia, in Germany, which had previously been visited by members of the committee and subsequently (June 1888) by Alexander. His vision was to "maintain a home-life away from the homes of the patients", but that "all must be employed in some way or other".

A suitable country house was found, the Manor House in Maghull, and the first patient was admitted on 28 December 1888. Dr Alexander was the Acting Honorary Medical Consulting Officer, to whom applications for admission were to be addressed. The role of Local Honorary Medical Officer with responsibility for day-to-day treatment of the patients was undertaken by a Maghull general practitioner. Places were quickly taken up at the Home, also sometimes known as the Epileptic Colony or Epileptic Institution, funded by either private or public means. Early reports indicated patients were by and large healthy and happy.[21] It may well be that quality of life at the Home was far better for people with epilepsy than would have been the case living in the community or obliged by want of other resources to enter the workhouse.

The Maghull Homes gradually expanded as demand for places increased (numbers peaked at over 400), and it continued to be involved in the care of people with epilepsy for over 100 years.[22] Amongst Alexander's final papers is one entitled "Scientific and clinical reports on epilepsy", published in five instalments in the *Liverpool Medical-Chirurgical Journal* between 1905 and 1908, running to almost 100 pages.[23] This included photographs of the patients/colonists at their occupations and sporting recreations and gave a generally upbeat assessment of the value of the "home" or "colony" system. His conclusion, "There is no doubt that an epileptic colony is the best atmosphere for an epileptic as far as health, life, and happiness is concerned", may well have been true for the times.

The epileptic colony model was subsequently taken up elsewhere in the United Kingdom, perhaps most notably at Chalfont St Peter under the auspices of the National Society for the Employment of Epileptics (later the National Society for Epilepsy) with links to the National Hospital at Queen Square, London.[24] Alexander was called upon to advise, both at its foundation, and as late as 1910 on the question of medical staffing.[25] Epileptic colonies were also established in the USA, and in Australia.

A Special Care Home was opened at Maghull in the mid-1970s which was named Alexander Home in memory of the founder, and opened by Harold Wilson, the then prime minister.[22] This building was later demolished, as times changed and the focus of the institution, now renamed the Parkhaven Trust, turned to care of the elderly.

CONCLUSION

William Alexander has been described as a "forgotten pioneer".[26] He died in 1919 and was buried at Heswall, Wirral (Figure 2). Certainly his various surgical innovations have been (rightly) abandoned, and the notion of epilepsy colonies is now antiquated. Nevertheless, Alexander helped to focus care on people with epilepsy in an era when they were largely neglected, many being deemed hopeless cases. His *BMJ* obituary stated that "he was unostentatious in manner, his opinions were lucidly expressed, and in speech he was never redundant".[1] Macalister described him as a "tower of clinical experience", of strong physical make-up, and of a kindly nature and very sympathetic to the sufferings of his patients.[3]

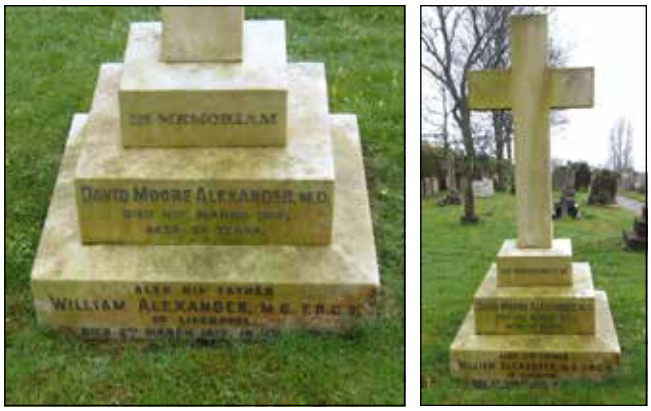

Fig 2 (2 panels). Alexander's grave at St Peter's Church, Heswall, Wirral (photographs courtesy of EHD Larner).

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