

# Preface

---

This booklet has been published to coincide with the 125th Anniversary of the first operation for glioma of the brain performed on November 25, 1884, by Mr Rickman Godlee (later Sir Rickman). Godlee made a bold decision to trephine the skull at the site over the predicted location of the tumour as indicated by the clinical symptoms of the patient, who was under the care of the physician Dr Hughes Bennett, at the Hospital for Epilepsy and Paralysis, London, UK. This operation was made possible by what, at the time, was relatively recent scientific and medical progress.

Over several years leading up to the surgery, insight into the localisation of cerebral function had been obtained by research in animals and from human clinical studies by pioneers like Professor David Ferrier and Dr Hughlings Jackson. This patient had Jacksonian epilepsy on the left side, eventually progressing to paralysis, and associated with increasingly severe headache. Thus it was a reasonable hypothesis that there would be a tumour in the Rolandic area in the right side of the brain.

Anatomical studies had also established where the Rolandic fissure should lie in relation to the surface landmarks of the skull so that the surgeon could determine where to trephine. The operation was technically highly successful, although sadly the patient died later of an infection.

Many key improvements since then have been made in neurosurgery, albeit initially gradually. Thus, the risk of post-operative infection, which had already been

greatly lessened from the 1860s by the adoption of the rigorous antiseptic technique of surgical preparation pioneered by Joseph Lister (later Lord Lister and incidentally uncle of Godlee), was further reduced from the 1890's with the introduction of aseptic techniques similar to present practice.

Radiology was also invented at this time and plain x-ray of the skull became rapidly adopted, followed by ventriculography in the 1920s and angiography in the 1930s. Today the imaging techniques of CT scan, developed in the 1970s and MRI scan from the 1980s, have advanced so they can be directly mapped to the surgical field per-operatively to enable the neurosurgeon to perform very accurate tumour surgery for glioma with the minimum of risk to the patient. The use of intra-operative MRI, with a scanner actually in the operating theatre, has also proved possible and its use is being evaluated in selected centres.

Other basic changes in neurosurgical instruments, including refined bipolar diathermy and use of operating microscopes have also very much lessened the risks to patients undergoing surgery for glioma of the brain. These risks have also very much been reduced by the peri-operative use of corticosteroids and osmotic diuretics as well as by progress in neuro-anaesthesia and high dependency post-operative care.

Sadly, it remains the case that in most diagnoses of cerebral glioma, surgery alone is not curative. Currently advances in the understanding of the basic biology of these tumours at a molecular level are opening up new

avenues for predicting outcome in response to radiation and chemotherapy as well as for the design of new clinical trials and treatment strategies.

The 125 years since Godlee's original operation seems a long time. The rate of progress in this field since the commemoration of the 100th anniversary 25 years ago has steadily accelerated and continues to do so.

This booklet is a reminder of how things started and should prompt renewed efforts to improve treatment of glioma of the brain.

David G T Thomas  
Emeritus Professor of Neurological Surgery  
National Hospital for Neurology and Neurosurgery  
Queen Square, London, UK  
March 2009



*Professor David G T Thomas*