

**HUNTERIAN LECTURES ON INTRA-  
CRANIAL INFLAMMATIONS  
STARTING IN THE TEMPORAL  
BONE: THEIR COMPLICATIONS  
AND TREATMENT**

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Hunterian lectures on intra-cranial inflammations starting in the temporal bone: Their Complications and Treatment by Arthur E. J. Barker

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**ARTHUR E. J. BARKER**

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THEIR COMPLICATIONS AND TREATMENT

*Delivered at the Royal College of Surgeons, June, 1889*

BY

ARTHUR E. J. BARKER, F.R.C.S.

*Hunterian Professor of Surgery and Pathology; Surgeon to University College Hospital,  
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LECTURE I.

MR. PRESIDENT and Gentlemen,—The subject to which I have the honour of inviting your attention in this and the following lectures is but a fragment of a much larger one which may be contemplated alike by the physicians and surgeons of this country with peculiar satisfaction. Whether we turn to the history of the pure pathology, of the clinical observation, or of the treatment of intra-cranial disease, we find that our countrymen have ever been foremost in the field of discovery, have cultivated it with the greatest vigour, and have won from it the largest yield of practical results.

We may well be proud of the work of such observers as Hughlings Jackson, Ferrier, Yeo, Gowers, Schaefer, and Horsley, who have been foremost in reducing the chaos of cerebral pathology to something like order; of the labours of Sir Joseph Lister, which have rendered the interior of the skull as safely accessible to us as any other cavity in the body; and of the operative achievements of his followers, who, like Macewen, Godlee, Horsley, and others, have been privileged to gather the first-fruits in the great harvest-field of modern brain surgery.

But much, of course, remains to be done on this ground in various directions; and to one particular branch of the subject in which I have been greatly interested, and in the study of which

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have for the last twelve years enjoyed some exceptional advantages, I will now ask your attention, as it appears to me to demand a far broader treatment than it has yet received. I refer to the inflammatory changes within the cranium and their complications, due to disease of the temporal bone.

The careful study of this branch of the great subject of cerebral pathology and surgery is surely of the utmost practical importance, for several reasons.

In the first place, whatever may be the ultimate verdict of science as to the advantages of removing malignant and other tumours from the brain, there can be no question as to the desirability of relieving the cranial cavity of inflammatory products which are immediately dangerous to life. And further, a broader study of these secondary inflammatory conditions within the skull by the profession at large is sure to result in a more thorough and widespread recognition of the dangers of the primary affections within the temporal bone which give rise to them, and in earlier and more determined efforts in the direction of prophylaxis. It will probably be a very long time before any means are discovered for preventing the growth of neoplasms within the skull, but it must be perfectly evident to any one who gives a patient attention to the inflammatory intra-cranial complications of ear mischief that this group of diseases might soon, by more thorough heed to the primary conditions, either be stamped out altogether, or at least so far limited as to become of extreme rarity, instead of being, as now, of very common occurrence, and frequently destructive of life, to say nothing of the sense of hearing.

That suppurative disease of the temporal bone is very common every medical man of experience must be aware. But that a correct notion as to its dangers and its relative mortality to that of other diseases is entertained by the bulk of the profession, and by the public, I very much doubt. Some are inclined altogether to underrate the seriousness of suppuration of the ear, while others are equally prone to exaggerate its dangers. As a matter of fact, it is by no means easy to express the true state of the case in figures. And yet it *is of the utmost importance* that we should have something like

clear conceptions upon the point. In the endeavour to obtain these I have ransacked a great mass of home and foreign statistics of various kinds bearing upon the question of risk from many sides, and yet I cannot but feel that the figures about to be quoted have only an approximate value.

In the first place, an appeal to the Registrar-General's Reports gives us only a faint shadow of the truth. If you will glance at this table, compiled from his Reports for the last ten years, you will see that in this country between 350 and 400 individuals are stated to die annually of what is vaguely termed "otorrhœa" or "otitis," in the official record. But you may also observe, in the same Reports, a very large number of deaths set down every year to "simple meningitis;" and a much larger number still, amounting to many thousands, grouped as unclassified brain disease, and under the heading of general septic affections.

TABLE I.

## REGISTRAR-GENERAL.

*Deaths from "Otorrhœa," during the Years 1878 to 1887 inclusive.*

	Males.	Females.	Total.
1878	151	116	267
1879	137	106	243
1880	167	115	282
1881	203	156	359
1882	255	198	453
1883	175	168	343
1884	228	163	391
1885	222	193	415
1886	214	195	409
1887	224	184	408
Total	1,976	1,594	3,570

Now, if it were possible to sift all these latter groups, and to rearrange them according to the primary cause of death, there



can be no doubt that these annual 400 deaths, attributed to ear-disease, would be swelled to four or five times the number. And I do not hesitate to say again, that this loss of life might easily be prevented by the application of that same careful antiseptic treatment to inflammatory disease within the temporal bone which is now almost universally applied to purulent affections of all the other bones of the body.

One of the causes why this class of affections is so rife is the widespread neglect by medical men generally of the study of the pathology and clinical features of the commonest ear diseases. Hitherto the latter have been too frequently quietly relegated, if not actually contemptuously tossed aside, to our aurist *confrères* after delay and neglect has quadrupled the difficulties of the latter to deal with them successfully. And men who have taken pains to acquire familiarity with the laryngoscope and ophthalmoscope, and with the diseases they reveal, and also with the appearances within the rectum, vagina, or bladder, as seen through special instruments, have almost shown a pride in professing complete ignorance in regard to matters relating to the dangerous processes going on within the cavity of the temporal bone, which we call the ear, processes which are no whit more difficult of study, and which are quite as important.

This state of things must have an end sooner or later, and the sooner the better. And it will be a matter of much regret if a country which can show such admirable pathological and clinical work as that of Toynbee, Gull, and Wilde, three or four decades ago, should stand still, enjoying the credit of their labours, without any serious endeavour to promote by all means the science which they had so much at heart, and the foundations of which they laid so soundly in our midst.

Among the most dangerous ear affections, which are at the same time by a long way the commonest, the question of the patient's present and future welfare is determined by the treatment of the first few hours of the attack, and every physician and surgeon ought to be as competent to recognise such affections, and to treat them promptly, as he would be to detect and direct the treatment of an acute tonsillitis, a strangulated hernia, or an internal pile.

Even supposing that the treatment of the *suppurative* affections *alone* of the middle ear were undertaken as matters of ordinary practice ; if thoroughly studied and understood, there would be an immense gain to the public, while abundance of material, as will be shown presently, would be left on which our specialist brethren would find ample scope for the exercise of their most useful powers.

In many respects there has been for some time past a distinct improvement in this direction. In the ordinary out-patient departments of a few of our metropolitan hospitals the rich material of aural cases has been of late years utilised in such a way as fairly to familiarise the present generation of students with ear disease, *not as a speciality*, but as a matter of ordinary routine practice. But there is still much room for improvement here, and every one can contribute something to popularise this much-neglected subject. But above all, when every qualifying examination in medicine and surgery includes questions in the pathology and treatment of diseases of the ear, still greater impetus will be given in the right direction.

I have some hope, therefore, that in handling this question of intra-cranial lesions due to ear disease with no preconceived notions, and merely as a matter of ordinary study, I may perhaps help to show that familiarity with the latter is not beyond the reach of those devoted to every-day surgery like myself. My own acquaintance with these matters is due to the kindness of my colleagues, through whom nearly all the cases of serious ear disease seeking relief at University College Hospital during the last twelve years or so have passed through my hands, to the number of some thousands of individuals. This has furnished ample material for study, and I have tried to supplement it by the dissection of a large number of specimens, and by the perusal of much of the current literature of the subject. I may, perhaps, be permitted to say here that for my own part the more I learn about the morbid conditions starting in the temporal bone and their sequelæ the more I am convinced that a very thorough acquaintance with their pathology, symptoms, and treatment is necessary to those who would treat successfully any

but the most trivial of the secondary morbid conditions due to them. In other words, the physician or surgeon must not rely for his diagnosis upon the knowledge and experience of the aurist, but must acquire these for himself; for it is into his hands, in the first instance, that such serious cases are most likely to come for diagnosis and treatment; and the latter, to be safe and effectual, must be undertaken at very short notice, as a rule. Moreover, it is only by uniting a general knowledge of medicine and surgery to this thorough acquaintance with ear inflammations that very grave errors in the diagnosis and treatment of the intra-cranial sequelæ are to be avoided; so that these cases cannot be safely relegated to the hands of aurists, however much we shall always remain indebted to them for the special treatment of some of the other after-effects of ear disease.

With these few prefatory remarks your attention will first be asked to that part of our subject which, I venture to think, is most likely to be neglected at the present time—namely, *the kind of mischief* in the temporal bone which is likely to give rise to intra-cranial inflammations. We shall then consider the *modus operandi* of the production of the latter, and finally, their differential diagnosis and treatment.

When we come to look for the points at which primary inflammation arises in the temporal bone and spreads to the intra-cranial structures we find that the internal ear and external meatus may practically be left out of consideration. Primary suppurative inflammation of the *internal* ear (by which is meant the labyrinth, etc.) is admitted by all experts to be next to unknown so far. And though suppuration is frequently met with in the *external* ear as a primary and separate condition, it is very uncommon for such a process to give rise to any intra-cranial complication so long as the *membrana tympani* remains undestroyed by it, and the tympanic cavity uninvaded; and such an invasion of the middle ear from the external is also of very uncommon occurrence. It is, then, in the middle ear (including in this term the cavity of the tympanum, with its offshoots into the mastoid process and *pars squamosa*, and the Eustachian tube) that we have to look for the primary disease, the secondary effects