ANATOMICAL NOTE

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MR. A. TUMARKIN'S anatomical note "The Endomeatal Spine and Fissure" is an important contribution to surgical otology in its present state. The tympanic plate assumes tremendous significance with the modern elaboration of otological technique such as the transtympanic or transmeatal or permeatal approaches.

After upwards of a thousand dissections of this region I have had ample opportunity to observe the multiplicity of variations of the tympanic plate.

Its outer free edge forms the outer limit of the anterior wall of the bony meatus. This edge may be thin, in which case the meatus is not constricted. Where it is thickened the typical constriction of the entry into the inner third of the auditory meatus is encountered. To this portion of the tympanic plate is attached the cartilage of the anterior portion of the meatal wall. When a speculum is inserted into the meatus and the tragal cartilage is everted forwards a ridge appears at the depth of about 1½ cm. within the meatus on its anterior aspect. This is a superlative landmark which appears to have escaped the attention of otologists. It is the edge of the tympanic plate and may well be termed the "tympanic ridge". Superiorly where the tympanic plate fuses with the bony meatal roof it flares backwards and frequently overhangs the meatus. This forms the endomeatal spine (Tumarkin) but it is by no means constant. In some cases it is a broad sessile mass of bone, in others it hardly encroaches on the lumen of the meatus. The meatal integument is always closely bound down in this region and it is advisable to detach the skin and reflect it with a sharp scalpel before removal of the bony overhang.

All transtympanic procedures require exposure of this region. Mr. Tumarkin finds access sufficient through the meatus itself. My personal preference is for a wider exposure to which Tumarkin refers as "the rather elaborate dissection which Popper has recently recommended". May I be permitted, therefore, with the help of the accompanying illustrations, to emphasize that this is not an elaborate dissection but an extremely simple manœuvre. The meatus is spread so as to expose the "tympanic ridge". An incision is made down to bone from below upwards along the "tympanic ridge" to the roof of the meatus. The incision is continued outwards along the roof and is again down to bone. The incision sweeps out of the meatus—the cut here is made down to temporal fascia only—and ends between the helix and the tragus. Fig. 1.

Fig. 2 shows an auxiliary incision along the upper half of the bony meatus at the level of the tympanic ridge. With gentle elevation the meatal cartilage is swept off the "tympanic ridge" and spine. Suitable retraction exposes the entire outer aspect of the tympanic plate. It is my custom to remove all bony

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overhang in this region and in addition to bevel the meatus superiorly and posteriorly to create a funnel-like entry to the tympanic structures. This is roughly indicated by the kidney-shaped area on the illustration of the temporal bone (Fig. 3).

May I reply to the comment that " It is never necessary to remove the major portion of the tympanic plate as recommended by Popper ". This recommendation appeared in my earliest paper on the transtympanic approach and has been modified in subsequent publications ; that the plate should be ablated only where it overhangs the meatus. I believe that the spine should be removed in all cases.

Finally, where access to structures anterior to the vestibulo-ampullary region such as the eustachian tube, carotid canal or petrous tip is desired, ablation of the major part of the tympanic plate is necessary.

Mr. Tumarkin has produced anatomical order into our conception of this important though smallest portion of the temporal bone, for which otology owes him a debt of gratitude.

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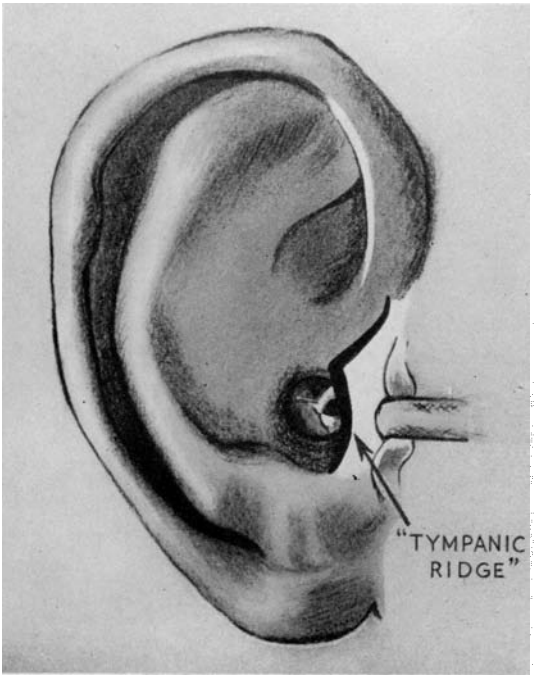


Fig. 1.

Basic Transtympanic Endaural Incision.

This incision hugs the anterior aspect of the meatus, traversing the " tympanic ridge " and the roof of the bony meatus. These portions of the incision are down to bone. The incision sweeps out of the meatus to end between the helix and the tragus. This part of the incision is down to temporal fascia only. The entire basic incision is extracartilaginous.

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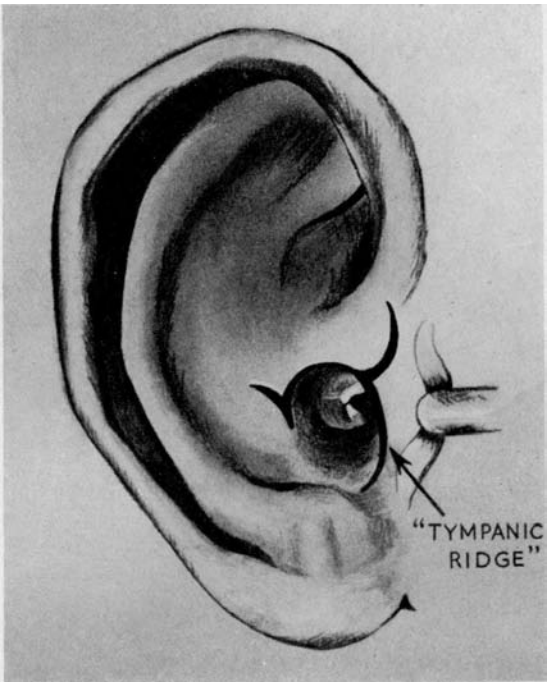


FIG. 2.

Auxiliary incision sweeps across upper bony meatus at the level of the tympanic plate. small gusset posteriorly facilitates adaptation of this flap to the widened meatal opening. After elevation the anterior and postero-superior flaps are retracted and the tympanic plate exposed.

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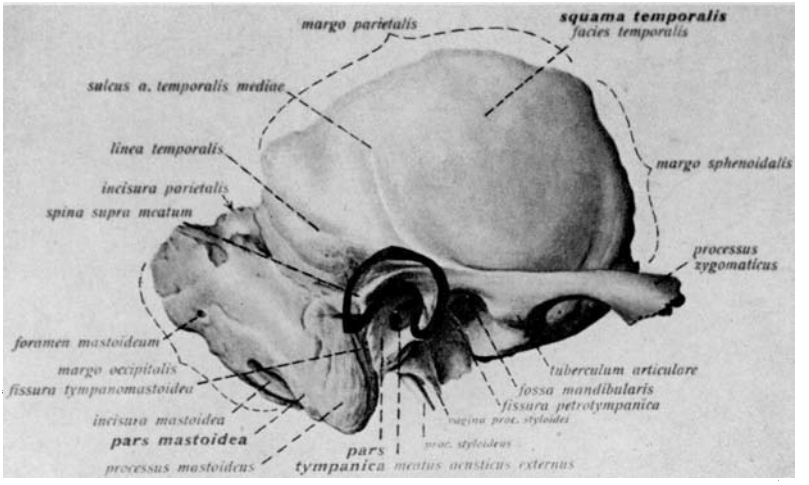


FIG. 3.

(From Sobotta.)

Kidney-shaped marked area overhangs meatus and is bevelled to secure unrestricted vision and entry to tympanic structures. It includes from before backwards part of " tympanic ridge " and tympanic plate, outer edge of bony meatus, suprameatal spine and a little of the posterior bony meatal wall.

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