7 Retraction of the Tympanic Membrane

7.1 Retraction of Pars Tensa

Fig. 7.1.1 Retraction of pars tensa is classified by Sade. Grade I of pars tensa retraction. Slight retraction of pars tensa, fibrous annulus (FA) becomes more prominent, cone of light (COL) is missing, lateral process (LP) of malleus is prominent due to unopposed medial pull of tensor tympani muscle leading to medialized handle of malleus (HOM).

Fig. 7.1.2 Grade II pars tensa retraction. Left ear showing Grade II retraction where pars tensa retracts and touches long process incus (IN). Here, we can see incudostapedial joint (ISJ), stapedius tendon (St), round window (RW), and part of horizontal facial nerve (FN). Lateral process of malleus (LP) is more prominent.
Fig. 7.1.3  (a) Grade III pars tensa retraction. Grade III retraction of pars tensa of right ear where pars tensa medializes more and adheres to promontory (Pr). It is called atelectatic tympanic membrane. Some air pockets (air) are still present in middle ear at anteroinferior and inferior quadrant. (b) Grade III retraction of pars tensa with incus necrosis and marked retraction pocket (arrows) between malleus-incus and posterior mesotympanum. HOM, handle of malleus; IN, incus; LP, lateral process; RW, round window; SS, stapes suprastructure; St, stapedius tendon.

Fig. 7.1.4  Grade IV retraction of pars tensa. Further retraction of pars tensa leads to complete adhesion of tympanic membrane to promontory with no middle ear air. In this picture, there is Grade IV retraction of pars tensa (adhesive otitis media) with malleus retraction making lateral process (LP) prominent. Lenticular process incus (IN) is necrosed. Tympanic membrane is adhered to promontory (Pm)—with no middle ear air. HOM, handle of malleus; RW, round window; St, stapedius tendon.

Fig. 7.1.5  Grade IV pars tensa retraction. IN, incus; LP, lateral process; PMF, posterior malleolar fold; RW, round window; SS, stapes suprastructure; St, stapedius tendon.
7.2 Retraction of Pars Flaccida

**Fig. 7.2.1** Grade I retraction of pars flaccida, just a dimple (arrow) lateral to malleus with no bony erosion of scutum.

**Fig. 7.2.2** Grade II pars flaccida retraction of right ear. Pars flaccida has touched malleus and incus. ANR, anterior notch of Rivinus; BOI, body of incus; CT, chorda tympani; HOM, head of malleus; IN, incus; M, malleus; PNR, posterior notch of Rivinus; RW, round window; SE, scutum erosion.

**Fig. 7.2.3** Grade III pars flaccida retraction of right ear with definite scutum erosion. Anterior epitympanic recess (AER) is clearly visible through scutum erosion. Malleus head is noticeable, and also one must appreciate myringosclerosis (MS) in pars tensa. M, malleolus.

**Fig. 7.2.4** Grade III pars flaccida retraction. AER, anterior epitympanic recess; LP, lateral process of malleus; MS, myringosclerosis; PMF, posterior malleolar fold; SE, scutum erosion.
Fig. 7.2.5  Grade IV pars flaccida retraction with scutum erosion going beyond visualization. Head of malleus, body of incus with short process of incus are seen through scutum erosion. Long process of incus is necrosed, chorda tympani (CT) is seen emerging from posterior canaliculus (PC), and myringosclerosis (MS) is noticed in the anterior-inferior part of pars tansa. BOI, body of incus; HOM, head of malleus; M, malleus; SE, scutum erosion; SP, short process of incus.

Fig. 7.2.6  (a) Grade IV retraction of pars flaccida. In this picture, full malleus and body of incus are visible. Necrosis of lenticular process and diffuse myringosclerosis (MS) are noted. (b) Grade IV retraction of pars flaccida of right ear. IN, incus; HOM, head of malleus; M, malleus; MS, myringosclerosis; AER, anterior epitympanic recess; AMF, anterior malleolar fold; CT, chorda tympani; SE, scutum erosion; SS, stapes suprastructure.
7.3 Posterosuperior Retraction Pockets

Though theoretically posterosuperior pockets (PSRP) fall into pars tensa retraction, i.e., inferior-to-posterior malleolar fold, it is commonly accompanied by pars flaccida retraction, cholesteatoma, etc.

**Fig. 7.3.1** Posterosuperior pocket (PSRP) of right ear (LP, lateral process of malleus; IN, incus; ISJ, incudostapedial joint; St, stapedius). One can notice necrosis of lenticular process (may be partial).

**Fig. 7.3.2** Posterosuperior pocket (PSRP) of right ear with grade IV retraction of pars flaccida, incus erosion, and scutum erosion (SE). We cannot determine the extent of retraction pocket. Along with this, there is diffuse myringosclerosis (MS).

**Fig. 7.3.3** A typical posterosuperior pocket (PSRP) of right ear with diffuse myringosclerosis (MS). It is Grade III retraction, where pars tensa has adhered to promontory, round window. CT, chorda tympani; IN, incus; LP, lateral process; MS, myringosclerosis; RW, round window; St, stapedius.