For the Hearing Instrument Specialist:

Otoscopy Demystified: Retracted Tympanic Membrane (TM)

As one gradually becomes proficient in the art of otoscopy, a vista of TM findings appears which grips one's attention. Some of the common and not so common findings are discussed below:

Retracted TM:
The Eustachian tube (ET) performs the function of maintaining pressure in the middle ear cavity. If the nasopharyngeal end of the ET becomes edematous secondary to some nasal, sinus, or pharyngeal pathology its lumen gets obliterated and air gets trapped in middle resulting in its absorption by mucosa. This results in negative pressure (vacuum) in middle ear, and it pulls the TM inwards which we refer to as retraction. The signs of retraction are as follows:

- The handle of malleus (HOM) becomes more horizontal.
- The cone of light is absent or distorted.
- The lateral process of malleus becomes more prominent.
- Anterior and posterior malleolar folds become prominent.

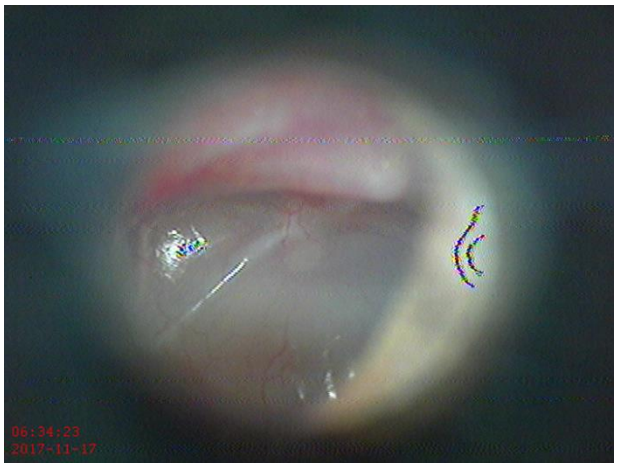

Figure 1 A retracted TM

The TM shows all the features of retraction. Note almost horizontal handle of malleus, prominent lateral process, and absent cone of light. Such a patient may complain of fullness or blockage of ear. The tympanometry will show a C Type of graph and PTA may show a minimal low frequency conductive hearing loss.

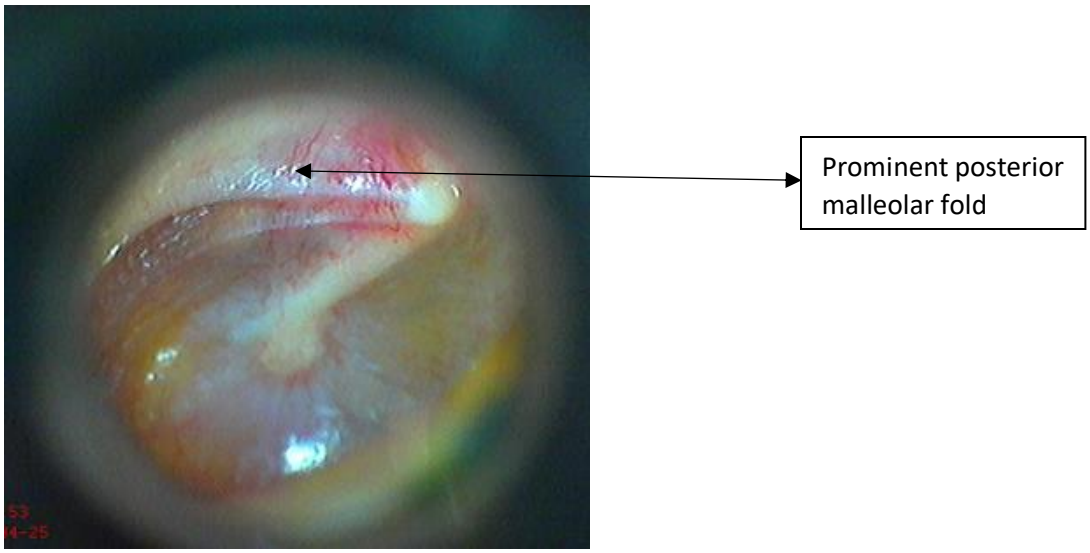

Figure 2 Early retraction

This TM shows early signs of retraction. Umbo appears deep as TM is pulled inwards, HOM is tending to become horizontal, cone of light is distorted, and posterior malleolar fold is very prominent.

Figure 3 Normal TM

Now you can compare the earlier two images with a normal looking TM. The persistence of negative middle pressure leads to development of serous otitis media, which we will discuss in next document.