Summary and conclusion

Tympanosclerosis is a degenerative healing process of the middle ear structures by hyalinization and calcification, and it often develops after inflammation when the process is limited to the tympanic membrane alone, the term myringosclerosis is preferred.

The etiology and pathogenesis of tympanosclerosis is not completely understood yet. It has been suggested that tympanosclerosis is caused by immunological reaction, infection, inflammation, genetic tendency or trauma.

The aim of the work is to study the efficacy of vitamin E application during myringotomy with ventilation tube on development of myringoisclerosis.

This study was carried out on sixty children aged from 4 to 10 years with complaining of chronic otitis media with middle ear effusion refractory to medical treatment, they were subjected to:

I- Pre operative assessment:

1- Complete history taking.
2- General examination.
3- Full ENT examinations.
4- Investigations:
   - Tunning fork tests.
   - Tympanometry.
   - Preoperative investigation as Hb%, bleeding time, coagulation time.
   - Plain x-ray lateral view on nasopharynex with open mouth.

II- Operative procedures:

- All children were operated under general anesthesia.
- The myringotomy incision was placed mostly in the anteroinferior quadrant.
- Middle ear fluid was aspirated.
- Grommet tubes were used bilaterally in all cases.
- Vitamin E drops (Alpha Tocopheryl Acetate Capsules) were used on the right ear.
- No treatment was used for the left ear.
- Vitamin E was applied after myringotomy by filling the middle ear cavity and making sure it contacts all surfaces.
- After a few minutes it was aspirated gently and a second course of Vitamin E was applied after Grommet tube insertion.
- No medication was applied for the left ear.

III- Post operative procedures:

- Routine follow up was scheduled by otmicroscope 2, 4 and 6 months after the operation.
- Tympanometry was done after Grommet tube falling out.
- Acoustic reflex was done in Myringosclerotic drum.

The result of the study were as follow:

Among the study group. Rt ear show 9 patients with myringosclerosis (15%), 51 patients with no myringosclerosis (85%). Lt ear show 18 patient with myringlosclerosis (30%), 42 patients no myringosclerosis (70%).

The benefit of vitamin E treatment on myringotomized human tympanic membranes has been emphasized in this study. We believe that further clinical studies employing vitamin E and other antioxidants with larger patient population may bring antioxidant therapy in myringotomy and tube insertion into routine clinical use.