Introduction

The treatment of otitis media accounts for 30 million physician visits per year, more antibiotic prescriptions than any other condition and multiple surgical treatments. The total cost per year for this condition is between 1-2 billion dollars. Thus the need to establish the best treatment for this condition is self-evident. After a decline in adenoidectomy as a treatment for otitis media (in all its forms) there have been several recent studies supporting the use of adenoidectomy in otitis media. This presentation will focus on data from randomized-controlled trials involving adenoidectomy over the past 20 years. I will go through a series of questions and provide the answers as best supported by the bulk of the literature. Before doing this, however, I must state "real" answers to these questions await better and larger studies. Bodner, et. al. attempted to do a meta-analysis on the available studies concerning the surgical treatment of chronic otitis media with effusion but aborted the attempt stating "It is disappointing that the scientific design of the 12 RCT's of the surgical management of OME published since 1966 was so poor that conclusions were impossible to draw from any single study and so variable that meta-analysis was impossible."

Question 1

What is the pathophysiology of the adenoid in middle ear disease?

The bulk of the data suggest that the adenoid does not act to obstruct the eustachian tube. It is postulated that the adenoid acts as a storehouse for bacteria that then reflux into the middle ear and initiate infection. The size of the adenoid has not been convincingly linked to its ability to cause disease.

Question 2

Does removal of the adenoid affect the natural history of otitis media?

The three randomized controlled trials which looked at this question all show a statistically significant improvement over the natural history of the disease. Paradise et. al. found that removal of the adenoid decreased the number of recurrences of OM in otitis-prone children. Gates et. al. and Maw and Bawden showed that adenoidectomy decreased time with effusion and improved hearing compared with a control group.
Question 3

How does the effectiveness of adenoidectomy alone compare to PET alone?

There is evidence from the studies by Maw and Gates that these two procedures are about equally effective for COME. Gates showed a significantly decreased time to recurrence and decrease in the number of surgical procedures required in the adenoidectomy alone group. However the difference in total time with effusion or improvement in hearing was not significant. The study of recurrent OM in otitis-prone children appears to favor PET's alone over adenoidectomy alone.

Question 4

Is adenoidectomy plus PET better than either procedure alone?

Gates showed that adenoid plus tubes resulted in less total time with effusion, better hearing (in the worse ear) and less need for additional surgery than tubes alone. When adenoidectomy alone is compared to BMT & A, the latter resulted in significantly decreased time to first effusion. In the study by Maw and Bawden, they conclude that adenoid plus tubes is better than either one alone, but the data that support this is not statistically significant. Other authors have not found that adenoidectomy has any significant advantages over tubes except for a tendency to decrease the number of subsequent tube re-insertions. It is likely that when the tubes are patent, adenoidectomy has no additional benefit. However if the tubes extrude in a child still at risk for OM, the adenoidectomy will have some protective role.

Question 5

Who should be offered adenoidectomy and at what point in the disease process should it be performed?

Gates felt in children above 4 years of age (he did not study children

Lessons Learned

1. Myringotomy as a sole procedure is not effective for COME.

2. T & A is no more effective than A for COME.

3. Adenoidectomy appears to favorably affect the natural history of OM.

4. The addition of adenoidectomy in the face of patent tubes probably does not confer additional benefit.

5. Adenoidectomy in the face of extruded tubes in the patient still at risk for OM probably is protective.

Future Questions

1. Who should be offered adenoidectomy as part of the initial treatment of OM?

2. Who should be given more permanent PET's as an initial treatment for OM?

3. Role of cost-effectiveness studies?
REFERENCES


