miR-21 mimics, as compared with cells transfected miR-21 inhibitor or control miRNA. The migrated cholesteatoma keratinocytes transfected miR-21 mimics was higher, as compared with the migrated cells transfected miR-21 inhibitor or control miRNA.

Conclusions: The present study showed that miR-21 promotes proliferation and invasion of cholesteatoma keratinocytes. The results give a partial explanation for the more aggressive clinical behavior observed in cholesteatoma.

Method: A retrospective analysis of all cases of pediatric primary acquired cholesteatoma aged 6–14 years old between May, 2005 and August, 2009 was conducted. 86 patients(89 ears) were treated and followed from 1 to 7 years[ the average is (3.8 ± 2.5) years].

Result: During the follow-up, intact canal wall mastoidectomy with tympanoplasty(ICW) was the primary surgical treatment in 38 patients(38 ears) initially, the recidivism rate was 18%(7/38), 48 patients(51 ears) underwent canal wall down mastoidectomy with tympanoplasty(CWD), the recidivism rate was 6%(3/51), the achieved rate of PTA was 68%(35/51).

Conclusion: ICW had the advantage which could preserve the physical structure of external auditory canal, however, the cholesteatomas in pediatric patients are more wide spread and erosive. The surgery should completely remove the diseased tissues and then preserve the hearing. Surgical techniques should be depending on the lesions extension, generally the tympanoplasty with open technique was more suitable.