

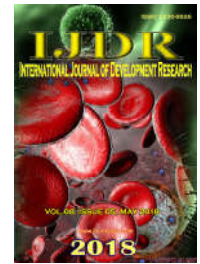


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PROSPECTIVE STUDY OF MICROFLORA OF SURFACE AND CORE BACTERIA IN CHRONIC TONSILLITIS

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ABSTRACT

Introduction: The constant controversy between the paediatrician and ENT surgeon regarding management of chronic tonsillitis has been going on for centuries, now the indication for adenotonsillectomy has become more precise and specific, with chronic tonsillitis being one of the most important indication

Materials and Methods: The prospective study is carried out on a scientific principle to find out the correct modality of treatment in chronic tonsillitis by comparing the surface and tissue culture for pathogenic bacteria in the tonsils

RESULTS: out of 100 patients taken up for study most common surface bacteria was 36- staphylococci and 35- alpha streptococci in surface bacteria and most common core bacteria being 29- beta hemolytic group A streptococci.

Discussion: Among the 100 cases only 19 cases were found to have identical flora in the surface and the core. It indicates that superficial throat swab is not diagnostic of the type of infection

Conclusion: The reliability of conventional throat swab is questionable, because of marked difference in the surface and core tissue pathogenic bacterial flora.

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INTRODUCTION

Chronic Tonsillitis is essentially a disease of the childhood. More common in children between age of 4 to 15. Tonsils are often sites of septic foci and can lead to serious complication like rheumatic fever, glomerulonephritis, bacterial endocarditis etc. The prospective study is carried out on a scientific principle to find out the correct modality of treatment in chronic tonsillitis by comparing the surface and tissue culture for pathogenic bacteria in the tonsils.

MATERIALS AND METHODS

In this study, 100 cases of chronic tonsillitis with age varying 6-27 years were studied. For about 10-14 days the patients were treated according to culture and sensitivity report. The throat swab was rubbed firmly and gently over the surface of the tonsil particularly on the area of purulent exudate.

The culture negative cases were also treated with antibiotics. The post treatment swab was taken from the tonsillar surface. Irrespective of the results tonsillectomy was carried out in all patients by dissection method. After washing the extirpated tonsil in sterile saline, the central portion of the tonsillar tissue was removed and transported in the screw capped universal container to laboratory for processing.

In the laboratory swabs were put in the glucose broth for enrichment and incubated at 37 degree centigrade for 4 hours. Then with standard loop the inoculate was spread over the following media, NUTRIENT AGAR forms the basal medium to carry out further biochemical tests, BLOOD AGAR PLATE as enriched media to observe the pattern of hemolysis, CHOCOLATE AGAR which serves as an enriched media, MACCONKEY'S AGAR PLATE – differential media to differentiate lactose and non lactose fermenters. These plates were incubated aerobically at 37 degree centigrade for 18-24 hours, and examined after 24 hours to observe the type, number and morphology of the colonies.

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RESULTS

In series of 100 cases the table 1 & 1(A) shows the culture results of throat swabs and tissue culture. Age group in the study, 6-9 years was total 13% with male being 7 and female

Beta streptococci in throat swab, tissue culture are more sensitive to penicillin, erythromycin, tetracycline and ampicillin. Staphylococci are more sensitive to erythromycin, cotrimoxazole and tetracycline.

Table.1

Organisms isolated	Throat swab Pre treatment	Throat swab Post treatment	TONSIL TISSUE CULTURE
1.Beta hemolytic streptococci group A	15	2	29
2.Alpha streptococci	35	13	23
3.staphylococci	36	6	24
4.pseudomonas	17	3	9
5.klebsiella	16	1	17
6.Escherichia coli	2	-	6
7.Haemophilus influenza	2	-	1
8.Streptococci pneumonia	2	-	1
9.peptostreptococci	4	-	2
10.no growth	2	75	0

Table 1(A). Mixed flora in surface and Tissue Culture

Combination of organisms isolated	Throat swab	Tissue culture
1. alpha streptococci & staphylococci	10	5
2. beta streptococci & staphylococci	6	-
3. alpha streptococci & pseudomonas	5	-
4. klebsiella& alpha streptococci	5	2
5. klebsiella& beta streptococci	4	-
6. klebsiella& staphylococci	0	5
7. beta streptococci & pseudomonas	2	-
TOTAL	32	12

6. 10-14 years of age was 52% with male 23 and female 29. Above 14 years was 35% with male 17 and female 18. Among 100 cases 53 were female and 47 were male.in the study most of them belonging to low socio economic group.

DISCUSSION

Alpha streptococci & staphylococci are most commonly seen in children in the surface, whereas in the core, staphylococci and beta hemolytic streptococci are the commonest organisms. Clinical presentation in the series of 100 cases are sore throat 88%, fever 28%, nasal discharge 28%, ear discharge 12%, features of adnoidfacies 8%, positive jugulodigastric node 74%, tonsillar enlargement 80%, tonsillar congestion 71%, tonsillar exudate 42%, anterior pillar congestion 88%. In this series of 100 cases, most of thr cases had any two of thr following triad, anterior pillar congestion, palpable jugulodigastric node and tonsillar exudate , which forms the criteria for tonsillar sepsis. Majority of the patients had sore throat (88%) and tonsillar enlargement (80%). Enlarged tonsils can interfere with swallowing, leads to malnutrition especially in children. Malnutrition again predispose to infection and this becomes a vicious cycle.

In such cases, tonsillectomy can improve the nutritional status. In series of 100 caes, alpha streptococci and the staphylococci were the commonest in surface. Beta hemolytic streptococci, staphylococci and alpha streptococci were the commonest in the tonsillar core. Thrunusal presentation of E-coli in the series may be due to orofecal contamination because of poor personal hygiene using unprotected water and low socio-economic status. Among the mixed infections combination of staphylococci with alpha streptococci and beta streptococci are coomon in the surface in throat swab. Combination of klebsiella with other organism are common in core tissue. In 2 cases the throat swab was negative, but core was found to be pathogenic.

They are resistant to penicillin and ampicillin. Klebsiella are more sensitive to tetracycline, gentamicin, amikacin and ciprofloxacin. They are resistant to penicillin, ampicillin and erythromycin. E-coli are more sensitive to gentamicin, kanamycin, ciprofloxacin and of loxacin. Alpha streptococci are more sensitive to penicillin, ampicillin, erythromycin, cotrimoxazole and tetracycline. Pseudomonas are more sensitive to gentamicin and amikacin , they are resistant to penicillin.

Conclusion

Conservative management with antibiotics will not eliminate the infection in the core tissue of infected tonsils which has been substantiated by our study. The present study clears the misconception that tonsils should never removed. Tonsillectomy alone will eradicate the infection and promote good health in patients

REFERENCES

- Bailey, W.R. and Scott, EO. 1947. Diagnostic Microbiology 4th Edition St. Louis C.V. Mosby.
- Bais, A.S. *et al.*, 1989. Tonsillar Enigma the correct modality of treatment, *India journal of Otolaryngology*, Volume 41.No.2 June.
- Birrel, J. Logan Turners Disease of Ear, Nose and Throat Tenth Edition 81-363-371.
- Broadsky, L. Moore, L., Stancovich, JF. *et al.*, 1988. The immunology of tonsils in Children Laryngoscope Edi.981 93.
- Brook 1 Shah *et al.* , 1987. surface and core tonsillar aerobic bacteria and anaerobic flora in recurrent tonsillitis *JAMA*, 244:1996.
- Brook 1 The Clinical Microbiology of Waldeyer's Ring: Otolaryngology Clinic of North America 20;249;1987.

Gaffney, *et al.*, 1989. Differences in Tonsil core bacteriology in adults and children, *laryngoscope*, march (99)261-6.

King, J. Refractory adeno Tonsillitis- a bacteriological study, *laryngoscope* 74;736-39.

John epones, *et al.* 1985. A synopsis of otolaryngology 293-94.

Find a Brodsky, 1989. Modern Assessment of Tonsils and adenoids, *Paediatric clinics of North America* 36;6 1551 Dec.
