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Throat swab for bacteriological culture in the management of acute tonsillitis – Is it necessary?

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ABSTRACT :

Acute tonsillitis is among the most common illnesses we encounter in our daily outdoor patient department. Decision to choose & start an antibiotic is mainly empirical. However our study proved that rationale of treating chronic tonsillitis medically should be based on the knowledge of the common core pathogens & the tonsillar swabs may not be a reliable form of investigation in isolating the pathogenic bacteria responsible for acute tonsillitis.

Keywords : Tonsillitis, Core Pathogens, Tonsillar swab ,Tonsillectomy, Core Swab

We often see patients with acute tonsillitis where a throat swab has been taken by the general practitioner or by any other department for bacteriological study.

Importance of throat swab for microbiology study in the management of routine throat infection e.g. tonsillitis is not clear in the literature.

Publication from Mayo Clinic suggests that throat swab can give an instant result to exclude infection and the final report can be found later [1]. Above instant reporting facility is not available in most parts of the world. Hence in most of the acute cases antibiotic therapy should be started before getting the final report. Another fundamental question is whether the swab from the tonsillar surface a true representative of bacteriology.

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Objective:

This study was conducted to investigate whether there is a correlation between bacterial culture from tonsillar surface and tonsillar core in patients who underwent tonsillectomy for recurrent tonsillitis.

Method:

1st arm: To survey on the present practice of the throat swabs sent by general practitioner over six months.

2nd arm: A swab from the tonsillar surface was taken from 28 patients in this study who underwent tonsillectomy using standard microbiology swabs (n=28). After completing tonsillectomy operation, tonsil was dissected by a fresh sterile blade by the operating surgeon. A separate swab was taken from the core of the tonsil. These swabs were then sent immediately to the Department of Microbiology for culture. Prior consent was obtained from the patients.

Results:

1st arm: We found that antibiotic treatment for acute tonsillitis was started in all cases before getting a microbiology report at the primary health care level in our survey. It was also obvious that microbiology culture report did not influence selection of antibiotics or caused change of antibiotics in any case.

2nd arm: Pathogenic bacteria were isolated in 15 out of 28 patients only. No bacteria were found in the culture of 13 cases.

Out of the 15 patients with pathogenic bacterial growth, 7 patients grew similar pathogenic bacteria in core and on surface; however 8 patients did not show any correlation in bacterial isolates of surface and core swabs (53% discrepancy).

Discussion:

A study published in 2007 showed similar findings [2]. They have compared tonsillar surface and core cultures in recurrent tonsillitis. In that study pathogenic bacteria was isolated in 77 patients out of 116 patients. Out of these 77 patients, in 52 patients, different types of bacteria were recovered from the surface and deep tissue cultures (67% discrepancy). In our present study, 53% discrepancy was observed.

Kurien M et al [3] opined similarly that routine culture of the throat by surface swab in the accurate diagnosis of bacterial flora in chronic tonsillitis is neither reliable nor valid.

Kindo AJ et all [4] conducted an interesting study to compare surface swab, fine needle aspiration (FNA) and core swab in isolating the pathogens. Correlation observed between surface swab with core swab was 47.9% and between surface swab with FNA 57.3%. The correlation between FNA with core swab of 69.3% showed that FNA for culture was superior to surface swab in predicting the core culture. But FNA is not a common practice at primary care level and it is an invasive process. Rationale of treating chronic tonsillitis medically should be based on the knowledge of the common core pathogen [4].

Limitation:

One of the limitations of our study is the size of the study. We took the swabs during tonsillectomy operation, when those patients were not acutely infected.

This is also can be considered as a downside of our study.

Conclusion:

Tonsillar swabs may not be a reliable form of investigation in isolating the pathogenic bacteria responsible for acute tonsillitis. Management of acute tonsillitis should be based on clinical findings. Unnecessary investigation can put extra pressure in our system, particularly when we are trying hard to save money in the National Health Service.

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