

THYROIDITIS IN THYROID DYSFUNCTION WOMEN

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ABSTRACT : In this study (33) infected portion was obtained from a thyroidectomy process were collected from women suffering with thyroiditis with the age range between (18-65) years. All of these samples were obtained from general educational hospital in Ramadi city. The collection period extended from September 2020 to January 2021. The results of this study revealed that 25 (75.75%) of samples was positive for bacterial culture, while 8 (24.25%) of samples have no growth. Different types of bacteria were isolated which caused thyroiditis. The bacterial strains isolated in our study, which proved to be Gram-positive, were as follows : 6 (23.07%) isolates of *Staphylococcus lentus* were identified followed by 4 (15.38%) isolates of *Staphylococcus hominis*, while 1 (3.84%) isolates of *Staphylococcus warneri*, *Staphylococcus haemolyticus*, *Staphylococcus aureus*, *Kocuria Kristinae* were found. While, the isolated bacterial strains in our study that were negative for gram stain were as follows : 9 (34.61%) isolates of *Burkholderia cepacia* were identified followed by 1 (3.84%) isolates of *E.coli*, *Enterobacter cloacae*, *Leclercia adecarboxylata* were found. The predominant bacteria was *Staphylococcus lentus* for gram positive and for gram negative was *Burkholderia cepacia*. All isolates (100%) from thyroid gland were biofilm producers, among (26) isolates, detected 3 (11.53%) as strong, 19 (73.07%) as moderate and 4 (15.38%) as weak. The results refer revealed the presence of many bacterial isolates that cause thyroiditis of both Gram-positive and Gram-negative types.

Key words : Thyroiditis, thyroid dysfunction, virulence factors, bacterial isolate.

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INTRODUCTION

The word thyroiditis refers to inflammation of the thyroid gland, which has several causes. Medical diagnosis is used to classify thyroiditis into chronic, acute and subacute types, acute forms of thyroiditis occur either due to acute infectious thyroiditis caused by a bacterial or fungal infection (usually arising from a piriform sinus fistula or blood spread) or radiation (Rothacker and Walsh, 2018). Infectious diseases of the thyroid gland are rare but potentially life-threat (Rahim *et al*, 2019). An altered microbiota composition increases the prevalence of Graves' disease (GD) and Hashimoto's thyroiditis (HT) (Fröhlich and Wahl, 2017). Microbes influence thyroid hormone levels by regulating iodine uptake, degradation (Fröhlich and Wahl, 2019). Microbiota, which consists of numerous different microorganisms, including bacteria, viruses, archea, fungi colonizing our bodies, is dominated by bacteria and plays an important role in the individual life of each person, according to scientific sources, the average number of

all bacteria in a person is estimated at 39 trillion and exceeds the number of cells building the body of an adult (Opazo *et al*, 2018). Acute thyroiditis (pyogenic thyroiditis, acute suppurative thyroiditis and bacterial thyroiditis), it is a rare disease, not considered common, usually bacterial in origin, but may be caused by fungi, parasitic organisms, or even *Pneumocystis carinii* (Chusid, 2017). The most common etiologic agents are *Staphylococcus aureus*, *Streptococcus pyogenes* and *Pneumococcus pneumoniae*, although other bacteria, including *Hemophilus influenzae*, *Escherichia coli* and meningococcal organisms, as well as anaerobes, have been reported as causing infection (Larem *et al*, 2021). Acute thyroiditis is the most prevalent in the pre-antibiotic era, previous studies reported its presence in more than 50% of cases and previous studies by Berger *et al* documented only 224 cases of acute thyroiditis. Immunocompromised individuals are more susceptible to infection. This disease is more common in women, usually between the ages of 20 and 40, as well as in children and

associated genes for their formation (Iyamba *et al*, 2020).

CONCLUSION

The results refer revealed the presence of many bacterial isolates that cause thyroiditis of both Gram-positive and Gram-negative types. These isolates possess a number of virulence factors that enabled them to cause this type of infection. Some of the bacterial isolates possess the ability to form biofilms and to varying degrees enhance their ability to cause infection.

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