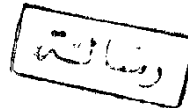


FACULTY OF MEDICINE
DEPARTMENT OF OBSTETRICS
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SULTAMICILLIN FOR TREATMENT OF OBSTETRIC AND GYNAECOLOGIC INFECTIONS



A Thesis

*Submitted for the Partial Fulfilment of the
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By

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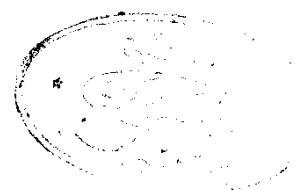
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا لَهَا مَا كَسَبَتْ
وَعَلَيْهَا مَا اكْتَسَبَتْ رَبَّنَا لَا تُؤَاخِذْنَا إِنْ نَسِينَا
أَوْ أَخْطَأْنَا رَبَّنَا وَلَا تَحْمِلْ عَلَيْنَا إَصْرًا كَمَا حَمَلْتَهُ
عَلَى الَّذِينَ مِنْ قَبْلِنَا رَبَّنَا وَلَا تَحْمِلْنَا مَا لَا طَاقَةَ لَنَا بِهِ
وَاعْفُ عَنَّا وَاعْفِرْ لَنَا وَارْحَمْنَا أَنْتَ مَوْلَانَا فَانصُرْنَا
عَلَى الْقَوْمِ الْكَافِرِينَ

صدق الله العظيم

سورة البقرة
آية رقم (٢٨٦)



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ABBREVIATION

PID : Pelvic inflammatory disease.

T.A.H. : Total abdominal hysterectomy.

B.S.O. : Bilateral salpingo-oophorectomy.

INTRODUCTION

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Patients who contract genital tract infections are predominantly young, are otherwise healthy, and generally respond well to treatment for bacterial infections. These infections are most commonly polymicrobial in etiology, with several noteworthy exceptions. Often there is an inciting event such as childbirth, surgical intervention, pregnancy termination or intrauterine contraceptive device insertion. With treatment, prognosis for cure is excellent, however, sequelae such as recurrent infections, infertility, or ectopic pregnancy can be serious. Bacteria encountered in the female genital tract can be divided into aerobic and anaerobic organisms. Among the aerobic gram-positive organisms, several varieties of streptococci such as group B-streptococci and enterococci occur frequently. *Staphylococcus aureus* is an infrequent but important pathogen. Among the aerobic gram-negative organisms, the most common are *Escherichia coli*, *Klebsiella* species and *Proteus* species. Among the anaerobic organisms, the most common gram-positive isolates are peptostreptococci and peptococci. Among the anaerobic gram-negative organisms, the *Bacteroides* species most frequently are *Bacteroides bivius*, *Bacteroides disiens* and *Bacteroides fragilis* (Gibbs, 1987). It can be estimated that 20% to 30% of the

obstetric and gynaecologic infections contained β -lactamase-producing organisms.

β -lactam antibiotics are the most commonly used antibiotics in obstetrics and gynaecology. However, they are susceptible for inactivation when attacked by β -lactamase enzyme.

More recently enzyme inhibitors have been discovered that inactivate β -lactamase. The combination of a new β -lactamase inhibitor such as sulbactam with a β -lactam antibiotic, such as ampicillin, restores the antimicrobial activity of the β -lactam against β -lactamase-producing strains of staphylococci, *Haemophilus influenzae*, *Enterobacteriaceae*, and *bacteroides* species (Eschenbach, 1987).

Sultamicillin is the tosylate salt of the double ester of sulbactam plus ampicillin. It is an orally effective compound against β -lactamase-producing organisms. Sultamicillin appears to provide a similar pharmacodynamic and pharmacokinetic profile to that of parenteral sulbactam plus ampicillin with further advantage of allowing treatment of patients with an oral formulation, thus avoiding the potentially adverse clinical and financial effects of prolonged parenteral therapy (Friedel et al., 1989).

AIM OF THE WORK

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The aim of this study is to evaluate the efficacy and toleration of sultamicillin (sulbactam/ampicillin) given orally twice daily for adults suffering from gynaecologic and/or obstetric infections.

REVIEW OF LITERATURE

MICROBIOLOGY OF THE FEMALE GENITAL TRACT

The normal flora of the lower genital tract:

Soon after birth, aerobic lactobacilli appear in the vagina and persist as long as the PH remains acid (several Weeks), when the PH becomes neutral (remaining so until puberty), a mixed flora of cocci and bacilli is present. At puberty, aerobic and anaerobic lactobacilli reappear in large numbers and contribute for the maintenance of acid PH through the production of acid from carbohydrates, particularly glycogen. This appears to be an important mechanism in preventing the establishment of other, possibly harmful microorganisms in the vagina. If lactobacilli are suppressed by the administration of antimicrobial drugs, yeasts or various bacteria increase in numbers and cause irritation and inflammation.

After menopause lactobacilli again diminish in number and a mixed flora returns. The normal vaginal flora often includes also group B haemolytic streptococci, anaerobic streptococci, bacteroides species, clostridia, Gardnerella vaginalis, ureaplasma urealyticum and sometimes listeria or mobiluncus species (Jawetz et al., 1989).

Ohm and Galask, studied the aerobic and anaerobic flora of 100 women prior to hysterectomy and found that all patients had positive cultures and 86% had a mixture of both aerobic and anaerobic organisms lactobacillus was the most common organism and was found in 74% of patients followed by peptococcus asachrophyticus (48%), staphylococcus epidermidis (41%), Diphtheroids (38%) and anaerobic streptococcus (34%). Of the commonly accepted pathogenic organisms, apart from the anaerobic streptococcus, E-coli was isolated in 28%, β -haemolytic streptococcus in 22% and Bacteroides species in 12% (Ohm and Galask, 1975).

Cartwright et al., in a review of the literature, concluded that β -haemolytic streptococcus occur in 20%, E-coli and streptococcal faecalis in 33% and Bacteroides fragilis in 16% of genital tracts of normal women. (Cartwright et al., 1984).

E-coli, proteus species, Klebsiella, Enterobacter species, clostridia species, and bacteroides species are considered the normal flora of cervix and vagina and are associated with disease when there has been some impairment of the normal integrity of the mucosal surfaces of the uterus or fallopian tubes (Grossman and Larsen, 1990).

Quantitative and qualitative changes in the flora of the genital tract occur after the menopause with a decrease in the lactobacilli and an increase in potential pathogens, particularly anaerobes (Larsen et al., 1982). The normal commensal flora plays an important role in protecting the host from microbial invasion by pathogenic organisms. mechanisms of this protection include the following;

- 1- Competition for the same nutrients (interference),
- 2- Competition for the same receptors on host cells (tropism),
- 3- Production of bacteriocins, that is, bacterial products that are toxic to other organisms,
- 4- Continual stimulation of the immune system to maintain low but constant levels of class II Histocompatibility (DR) molecule expression on macrophages and other accessory cells,
- 5- Stimulation of cross-protective immune factors such as the so-called natural antibodies (Tramont, 1990).

Upper Genital Tract Flora:

Ongoing research indicating that there may be a normal flora in the upper genital tract may further compound the problem of accurately identifying pathogens in women with acute community-acquired pelvic infection.