

Caesarean Section Surgical Site
Infection Surveillance Rate and
Risk factors in Ain Shams
University Maternity Hospital

Thesis
Submitted for Partial Fulfillment of Master
Degree of
Obstetrics and Gynecology

by

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M.B.B.ch

November 2002

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2009

Acknowledgement

First and the most I would like to thank ALLAH ,whom without this work would not have been done .

I wish to express my sincere appreciation and gratitude to Prof. **Dr./ Gamal Abd El Salam Wafa, Professor of Obstetrics and Gynecology, Ain Shams University,**for his supervision, guidance , advice and extreme decency throughout the accomplishment of this work.

I'm greatly indebted to **Dr./ Noha Hamed Rabei,Assistant Professor of Obstetrics and Gynecology, Ain Shams Univerisity,**who gave me the chance to carry out this work , continuous advice with valuable criticism for her kindness and for the time dedicated and observation she made during this work .

My warm thanks and deep love and gratitude also to my family especially my wife ,I hope that any discomfort I have caused them may be forgiven.

Contents

Contents

1-List of abbreviations.....	(II)
2-Protocol.....	(III... XV)
3-Review of literature:.....	(1....70)
- Chapter I :	
*surgical site infection (SSI):.....	(1....34)
I-Introduction	(2...3)
II-Criteria for defining SSIs.....	(4...7)
III-Aetiology of SSIs.....	(8...99)
Iv- Microbiology.....	(10...11)
vI-Pathogenesis.....	(12...15)
vII-Prevention Strategies for SSIs.....	(16...31)
vIII-Costs associated with SSIs.....	(32...34)
-Chapter II:	
*Risk Factors:.....	(35.....58)
I-Patient Factors.....	(37...40)
II-Anaesthetic factors.....	(41...42)
III-Wound Status Factors.....	(43...44)
Iv-Surgeon Related factors	(45...58)
-Chapter III:	
*SSI Surveillance :.....	(59.....70)
I-Definition.....	(60)
II- SSI risk stratification	(61.....64)
a. Concepts.....	(61...63)
b. Issues.....	(63...64)
III- SSI surveillance methods	(65...70)
a. Inpatient SSI surveillance.....	(65...67)
b. Postdischarge SSI surveillance.....	(68...69)
c. Outpatient SSI surveillance.....	(70)
4-Subjects and Methods.....	(71.....72)
5-Results	(73.....96)
6-Discussion.....	(97.....105)
7-Summary & Conclusion	(106.....108)
8 -Recommendation	(109)
9 -References	(110.....149)
10 -Arabic summary	

List Of Abbreviation

1-List of abbreviations:

- **SSI** **Surgical Site Infection**
- **NNIs** **National Nosocomial Infection Surveillance.**
- **UTIs** **Urinary Tract Infections.**
- **US** **United States.**
- **S.aures** **Staphylococcus aureus.**
- **MRSA** **Methicillin Resistant S.aureus.**
- **E-coli** **Escherichia coli.**
- **DPC** **Delayed primary Closure .**
- **VRE** **Vancomycin resistant Enterococci .**
- **ICU** **Intensive Care Unit .**
- **PDS** **Post Discharge Surveillance .**
- **HIV** **Human Immunodeficiency Virus.**
- **BMI** **Body Mass Index .**
- **SIPGWW** **Surgical Infection Prevention Guideline
Writers Workgroup .**
- **SIP** **Surgical Infection Prevention .**
- **MICs** **Minimal Inhibitory Concentration**
- **ASHP** **American Society of Health System
Pharmacists .**
- **CNS** **Coagulase Negative Staphylococcus .**
- **ASA** **American Society of Anaesthesiologists .**
- **SPSS** **Statistical program for Social
Science .**
- **CI** **Confidence Interval .**
- **HS** **Highly Significant .**
- **NS** **Non Significant.**
- **CDC** **The centers for Disease Control and
Prevention.**

Protocol

**Caesarean Section Surgical Site
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Introduction

Definition of surgical site infection (SSI)

A- Superficial incisional SSI

Infection occurs within 30 days after the operation and infection involves only skin or subcutaneous tissue of the Incision (Horan Tc, et al ; 1992)

B- Deep incisional SSI

Infection occurs within 30 days after the operation if no implant is left in place or within one year if implant is in place and infection appears to be related to the operation and infection involves deep soft tissue (e.g fascial and muscle layer) of the incision (Horan Tc, et al ;1992).

C- Organ / space SSI

Infection occurs within 30 days after the operation if no implant is left in place or within one year if implant is in place and the infection appears to be related to the operation and infection involves any part of the anatomy (e.g organs or spaces) other than the incision, which was opened or manipulated during the operation (Horan Tc, et al ;1992

SSI should include at least one of the following Criteria (A J Mangram , et al ; 1999) :-

1- Purulent drainage .

2- Organisms isolated .

3- Signs or symptoms of infection

- Surgical site infection is the second most common infectious complication after urinary tract infection following caesarean section delivery (Hillan J;1995).

- Surgical site infection rarely represents a threat to life ,however there are far reaching morbidity and socioeconomic consequences for the patients and health care services (Reilly J, et al ; 2001)
- Analysis of risk factors for surgical site infection is necessary. It includes intrinsic and extrinsic factors and these factors are :-

1- Presentation to theatre : there is contradictory evidence from studies regarding the association of emergency procedures with a greater incidence of infection (Hillan J, et al ; 1995).

2- Body mass index (BMI) : a greater rate of infection is associated with obese women undergoing caesarean section (Pelle H, et al ; 1986).

3- The ideal method of skin closure following abdominal surgery including choice of skin closure material (Bhatia R, et al ; 2002) , in general , monofilament sutures appear to be associated with a decrease in risk when compared with others (angram AJ , et al ; 1999) , Subcuticular absorbable sutures that are buried in the wound are associated with a decreased risk of infection (Wetter LA,et al;1991).

4- Risk factor of both intrinsic and extrinsic origin is the duration of time of rupture of membranes prior to caesarean section, following membranes rupture the amniotic fluid is not sterile and may act as a transport medium by which bacteria come into contact with the uterine and skin incisions (Normand MC and Damato EG.; 2001) ,Research identifies an association between prolonged rupture of membranes and an increased risk of surgical site infection (Pelle H , et al; 1986).

5- Antibiotic prophylaxis: is recommended for all operations involving entry into a hollow organ (Scottish intercollegiate Guidline network ; 2003) , The antibiotic should be administered preoperatively, ideally within 30 minutes of induction of anaesthesia , an adequate concentration of antibiotic within the serum and tissues will reduce the risk of resident

bacteria overcoming the immune system during the immediate post operative period (Mangram A J , et al ; 1999).

6- Duration of operation : - Research identifies an association between prolonged time of operation and an increased risk of surgical site infection (A. Johnson,et al ; 2002).

7- Grade of operator : Consultant or Registrar, a greater rate of infection is associated with consultant than registrar (A. Johnson , et al ; 2002)

8- Anaesthetic type : Regional or General , a greater rate of infection is associated with general anaesthesia than regional anaesthesia (A. Johnson , et al ; 2002).

Aim of the work

- 1- Evaluation of caesarean section surgical site infection surveillance rate in Ain Shams University Maternity Hospital.
- 2- Evaluation of caesarean section surgical site infection risk factors in Ain Shams University Maternity Hospital .

Subjects and Methods

- This study will be conducted in Ain Shams University Maternity Hospital .
- Data will be collected for patients undergoing a caesarean section procedure between 30 April 2008 and 30 October 2008 and Include all patients undergoing elective or emergency caesarean section at the hospital site except patients with diabetes mellitus, hypertension ,chorioaminites , corticosteroid and placenta previa.

- Data collection and follow up will be done at two levels :-

1st, During the in patient stay; information from direct observation, medical notes, and positive microbiology will be used in conjunction with clinical signs and symptoms to identify SSI.

2nd, In the community setting to 30 days post operatively ; post discharge follow up will be performed by direct observation of patient or by telephone call.

Risk factors included will be :- age, presentation to theatre, anaesthetic type , duration of operation , grade of operator, method of skin closure, body mass index , duration of rupture of membranes and antibiotic prophylaxis.

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