MORBIDITY AFTER ABDOMINAL HYSTERECTOMY

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SUMMARY

Infection is the most frequent complication of hysterectomy either abdominal or vaginal. The important principle is to have antibiotics present in the tissue before the bacteria are introduced. Prophylactic perioperative antibiotics is found to be effective in reducing the incidence and severity of postoperative infections by improving the host defense against bacteria innoculated into the wound. We carried out a retrospective study to find out the post operative infection rate following abdominal hysterectomy. The overall morbidity was found to be 17.9% with 3 doses of Cefazoline prophylaxis.

INTRODUCTION

Hysterectomy is now the most frequently performed operation in India. The most common complication associated with this procedure is operative site infection. Such infection occurs in 40 - 60% of patients and typically take the form of pelvic cellulitis (Duff P. et al 1980).

In recent years many investigators have expressed concern about the high incidence of infection and have designed various strategies including systemic antibiotic prophylaxis (Duff P et al 1980) to reduce the rate of infection. It is important to realize however that 60-70% of all hysterectomies are performed abdominally. Moreover the effectiveness of antibiotic prophylaxis in reducing infection after abdominal hysterectomy is not well established. The present study was carried out to determine if 3 dose antibiotic regime could reduce the incidence of operative site infection after abdominal hysterectomy.

Cefazoline, a 1st generation cephalosporin was used as a prophylactic agent because of its ease of administration, low toxicity and recognized broad spectrum of activity against the usual pathogen responsible for soft tissue pelvic infection.

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MATERIALS AND METHODS

In order to find out the post-operative febrile morbidity following abdominal hysterectomy a retrospective analysis of records was carried out for all patients who underwent abdominal hysterectomy at C.M.C. teaching hospital between 1990 and 1991. The total number of hysterectomies during that period was 776. Three hundred and fifty six charts had a complete information. Patients with cardiac problems and malignancies were not included in our study.

All hysterectomies were performed by either the consultants or the post graduates under the direct supervision of a member of the staff. The data specifically looked for were pre-operative debilitating medical problems like diabets mellitus, anaemia, immunosuppression, intraoperative blood loss, duration of operation and the suture material used.

According to the individual unit policy patients were given 3 doses of Cefazoline (either 500 mg or 1 gm). The 1st dose was given along with premedication (IM), 2nd dose at the time of skin incision (IV) and 3rd dose 6 hours later (IV).

Patients were catheterized pre-operatively with No.16 foley's catheter. Abdomen was prepared by betadine scrub. Oral temperature and other vital signs were monitored every 4 hours post-operatively in most women till discharge. Catheter was removed with in 24 hours.

Post operatively each patient was evaluated for evidence of infection. The following criteria was used to define infection related morbidity.

1. Febrile morbidity determined by 2 oral temperature more than 38° taken at least 4 hours apart (excluding the day of surgery).

2. Pelvic cellulitis: determined by persistent temperature elevation in association with abdominopelvic pain, vaginal cuff tenderness and localized pelvic peritoneal irritation.

3. Pelvic or cuff abscess demonstrated by discrete loculation of purulent fluid at the apex of vaginal vault and by drainage of infected material on probing of the suture line.

4. Wound infection - indicated by warmth, erythema, induration pain and/or tenderness as well as overt purulent drainage at the site of surgical incision.

5. Urinary tract infection - diagnosis is based on the clinical symptoms suggesting cystitis or pyelonephritis and confirmed by bacteriological culture.

The following lab studies were performed routinely on all infected patients, WBC, hematocrit and urine C/S. Vaginal swab was not obtained unless there was a discrete loculation or purulent fluid at the vaginal apex or unless patient had a foul smelling vaginal discharge.

Blood culture was done only in indicated patients. Ultrasound scan was performed in patients suspected to have pelvic abscess.

RESULTS

Seven hundred and seventy six patients underwent hysterectomy in 1990 and 1991. Of these we reviewed 439 charts. 356 had abdominal hysterectomy, 83 had vaginal hysterectomy. Of the 356 who had abdominal hysterectomy, 300 received doses of 1 gm cefazoline and 56 received 3 doses of 500 mg cefazoline according to the unit policy.

The mean age of the patients in both groups was 38 years. Table-I - Pre operative and intraoperative factor which influence the infection rate

228 (64.04%) had uneventful postoperative period. In no patient did bacteriuria, septic shock or septic pelvic vein thromosis develop. One of the patients who had a hysterectomy

Table-I

Factors		Overall	incidence %
Medical problems			
Anaemia and diabetes	Yes	25	7.02
Intraoperative	< 500 ml	334	93.8
blood loss	> 500 ml	22	6.1
Suture materials	Catgut	354	99.2
used for vault closure	Others	2	0.56
Average operating	< 2 hours	348	97.7
time	> 2 hours	8	2.2
Duration of bladder	24 hours	348	97.7
catheterization	>24 hours	8	2.2

Table II
POST OPERATIVE COMPLICATIONS EXPERIENCED (CLINICAL)

Complications	Total/Percentage
Wound infection	24 (6.7)
Pelvic cellulitis	54.(15.1)
Burst abdomen	1 (0.2)
UTI	45 (12.6)
Cuff Abscess	4 (1.1)

Table 2 shows the post operative complication experienced in our patients. Out of 356 patients the post operative morbidity was seen in 128 (35.1%).

for chronic PID was a known diabetic on insulin, had a burst abdomen postoperatively and she required surgical reapproximation of the wound.

Table III
Post operative investigations (Bacteriological)

Investigations	Total (Percentage)
Vault swab	14 (3.9)
Wound Swab	5 (1.4)
Urine C/S	45 (12.6)

Of these 128 patients, infection was proved by bacteriological investigations in 64 cases.

The remaining 64 patients had infection related morbidity.

150 patients had post-operative fever. All were treated with additional antibiotics depending on the culture sensitivity report.

DISCUSSION

Although the value of prophylactic antibiotics in preventing operative site infection following vaginal Hysterectomy is well established, their role in abdominal hysterectomy is not clearly understood.

(Shapiro M, et al 1982) Antimicrobial administration to prevent infection after most elective surgical procedures, including hysterectomy was popularized in early 1950s.

Most of our knowledge of cellular events leading to tissue infection is based on the thoughtful work of general surgeon, John (Burke 1973) was concluded that there was a limited period when the operative site was receptive to the beneficial effect of antibiotic prophylaxis. He noted that the biochemical interaction between bacteriod and host defenses began immediately when the organism was inoculated and, to be effective in suppressing infection antibiotics have to be given before bacteria are introduced into the tissue.

Recent studies have evaluated the role of prophylactic antibiotics for abdominal hysterectomy. Holman et al (1978) who used Cefazoline 500 mg Q6H X 3 doses showed a statistically significant reduction in the incidence of urinary tract infection, pelvic cellulitis and wound infection.

Polk et al (1980) studied 429 patients who underwent abdominal hysterectomy. 206 received Cefezoline x 3 doses 1 gm IM on being called to the theatre (1-2 hours before surgery), 2nd and 3rd dose given intramascularly 6 and 12 hours after the 1st dose. The rate of wound infection was 18 out of 206 (8.7%), Pelvic cellulitis(3.8%), Cuff abscess (0.9%) Pelvic abscess (0.4%) and urinary tract infection (9%). The total infection rate is 14% as against 21% infection rate in the placebo group. In a study carried out by Grossman et al 1979, 317 patients were treated with Cefazoline, Penicillin and placebo at 30 minutes prior to surgery and at 6 hour interval thereafter for 48 hours. Of the 79 patients treated with Cefazoline the Urinary tract infection was seen in 8 (10.1%), vaginal cuff abscess in 5 (6.3%), wound infection in 4 (5%). The total infection rate was 20 (25.3%). Hemsell et al 1987) reported the use of

1 gm Cefazoline IV or IM administered pre-operatively as a single dose for prophylaxis at hysterectomy. The overall incidence of operative site infection requiring antimicrobial therapy was 7.2% - 7.6% for women undergoing abdominal hysterectomy and 6.3% for women undergoing vaginal Hysterectomies.

CONCLUSION

The post operative infections morbidity in our Hospital cases was found comparable to the study carried out by Grossman et al 1979 and Polk et al 1980. The overall post operative infection rate was found to be 35.1%.

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