

Review of 17 cases of ectopic pregnancy at the Vila Central Hospital in Vanuatu

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SUMMARY

A review of cases of ectopic pregnancy operated upon at Vila Central Hospital during 1992 with an analysis of clinical presenting features and diagnostic factors is presented. Comparison is made between hospital, regional and national figures and possible explanations for the differences are given. Recommendations are made to ensure that ectopic pregnancy is always at the forefront of differential diagnosis in women presenting with abdominal pain.

Introduction

Vanuatu is a country of over 80 islands stretching north-south over 850 km in the southwest Pacific Ocean, about 800 km west of Fiji. The population of 150,000 is predominantly Melanesian and is scattered through the islands unevenly so that 85% live on the eight largest islands. The crude birth rate is 37 per 1000. The population is young with 45% under 15 years of age. There are an estimated 5500 deliveries per year in the whole country of which about 80% take place in a health facility (dispensary, health centre, district hospital). There are 5 district hospitals, 20 health centres and 68 dispensaries in the whole country. Vila Central Hospital (VCH) is the main referral hospital where there are approximately 1500 deliveries per annum and where the country's only obstetrician and gynaecologist is based.

Ectopic pregnancy is the implantation of a pregnancy outside the uterine cavity, usually in the fallopian tube. As the pregnancy grows in the fallopian tube, it causes distension and rupture (usually within the first ten weeks of pregnancy) with intra-abdominal bleeding requiring surgical treatment. Left untreated, ruptured ectopic pregnancy can be fatal in a matter of hours.

This study is an audit of the ectopic pregnancies operated upon at the VCH during 1992. Comparison is made with other hospitals in Vanuatu. It was undertaken in an effort to identify the areas where improvements can be made in the diagnosis and management of cases of ectopic pregnancy.

Methods

Patients who had an operation at VCH for ectopic pregnancy during 1992 were identified from the operating theatre register and were double-checked using the inpatient statistics. The hospital notes were scrutinized to obtain further details regarding referral and area of residence, clinical symptoms, signs, findings on investigation and at operation, and, particularly, whether the diagnosis was considered before the assessment of the patient by the gynaecologist. National statistics on the number of ectopic pregnancies occurring in all hospitals in Vanuatu were obtained from the Department of Health's computer data store and in the case of the Northern District Hospital were validated by comparison with the hospital operating theatre register.

Results

During 1992, there were 17 patients who underwent a partial salpingectomy for ectopic pregnancy at VCH.

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Referrals

Of the 17 cases 4 were referred by health practitioners from other islands. One other patient came from another island on her own accord two weeks after presenting to a health centre there. 2 cases were referred from health centres on the island where VCH is situated (Efate). The other 10 cases were self-referrals to the outpatient’s department at VCH and were residents of Vila and its suburbs.

Clinical features

The clinical features are summarized in Table 1. In 8 cases there was a history of previous pelvic inflammatory disease (PID) or infertility although this was elicited by the health practitioners in only one case. 2 cases had a previous ectopic pregnancy. In 11 cases there was a period of amenorrhoea although this was not elicited by the health practitioners. All cases presented with abdominal pain and 12 also had vaginal bleeding. The duration of symptoms ranged from 1 to 35 days (median 9 days) before operation. 10 patients were clinically anaemic. All patients had abdominal tenderness on examination; 3 had clinically detectable fluid in the abdominal cavity, and 4 had a palpable pelvic mass. 7 cases had evidence of shock or had had at least one episode of collapse.

Diagnosis

In only 4 cases was the diagnosis of ectopic pregnancy considered before the assessment of the patient by the gynaecologist. In only 3 of the 6 referred cases was the diagnosis considered despite these being advanced cases. The usual diagnostic labels were PID or threatened abortion.

Investigations and operative findings

The haemoglobin level ranged from 3.9 to 14.7 (median 9.2) g/dl and it was less than 10 g/dl in 9 of 15 cases. A pregnancy test was performed only twice, with one positive and one negative result. The ultrasound scan was used in 10 cases and it was helpful in obviating a laparoscopy in 6 cases because of the demonstration of fluid in the abdominal cavity. Laparoscopy was performed in 5 cases.

All cases had a ruptured tubal ectopic pregnancy and were treated by partial salpingectomy. 6 cases had massive intraperitoneal haemorrhage (over 1000 ml) and were given a blood transfusion of between 2 and 5 units each. There were no maternal deaths in this series.

TABLE 1

CLINICAL FEATURES OF ECTOPIC PREGNANCY AT VILA CENTRAL HOSPITAL

		Number	Percent
Presentation	Abdominal pain	17	100
	Vaginal bleeding	12	71
	Amenorrhoea	11	65
Past History	PID/Infertility	8	47
	Previous ectopic	2	12
Examination	Tender abdomen	17	100
	Anaemia	10	59
	Shock/Collapse	7	41
	Pelvic mass	4	24
	Abdominal fluid	3	18

PID = pelvic inflammatory disease

Discussion

The incidence of ectopic pregnancy has risen dramatically in the last two decades and now accounts for 1.3% of all pregnancies. In France and the United States of America the incidence is 1 in 50 livebirths (1,2). The frequency of ectopic pregnancy for Vila Central Hospital is 1 in 85 births and for the VCH referral area it is 1 in 132 births. Statistical data from the Department of Health (Figure 1) show that between 1987 and 1992 there were an average of 19.2 ectopic pregnancies diagnosed annually in the whole of Vanuatu, giving an estimated incidence of 1 in 286 births.

The data in Figure 1 also show that 85% of the operations for ectopic pregnancy between 1989 and 1992 were performed at VCH, leaving only 15% shared between the other three hospitals with operative capability. As the number of deliveries at VCH represent only about 25% of the total for Vanuatu, it would be expected that more than two-thirds of the ectopic pregnancy cases operated upon at VCH would be referred cases. This study, however, showed that only 5 of the 17 cases (i.e. less than one-third) came from outside the referral area of VCH.

Northern District Hospital, which is the second largest referral hospital in Vanuatu, and where surgical expertise and facilities exist, has approximately 60% of the number of deliveries of VCH. Assuming a similar incidence of ectopic pregnancy as VCH, Northern District Hospital would be expected to have performed 42 operations for ectopic pregnancy between 1989 and 1992. From Health Department statistics and from the hospital's own records, it appears to have had only 9 ectopic pregnancies during this time (which represents 53% of all the cases operated upon outside VCH). Since there were no cases of ectopic pregnancy referred to VCH from the catchment area of the Northern District Hospital during 1992, it appears that the frequency of the diagnosis of ectopic pregnancy in this area was only 21% of the expected (9 out of 42). This could be because of a genuinely lower incidence of ectopic pregnancy in that area or underdiagnosis.

As previous damage to the tube is the main aetiological factor, the incidence of ectopic pregnancy is proportional to that of pelvic inflammatory disease (PID). Data from the Department of Health show that the rate of confirmed cases of gonorrhoea on routine antenatal screening is greater at the Northern District Hospital than at VCH. This evidence suggests that the incidence of ectopic pregnancy in the Northern District would be expected to be higher than in Vila. Since the number of cases of ectopic pregnancy operated upon in the Northern District Hospital between 1989 and 1992 was much less than expected, there is likely to be a significant underdiagnosis of ectopic pregnancy outside VCH. This is reinforced by the finding in this study that at VCH in only 1 of 11 self-referred cases was the diagnosis considered by the health practitioners (nurse practitioners as well as general doctors) in the outpatients' department. Both nurse practitioners and general doctors appear to find difficulty in eliciting a history of previous PID or infertility, or amenorrhoea, preceding vaginal bleeding and they seem too eager to attribute abdominal pain and tenderness to PID or threatened abortion without even considering the possibility of ectopic pregnancy.

It is of vital importance that all health personnel are made aware of the clinical features of ectopic pregnancy as shown in this study. Intra-abdominal bleeding from an ectopic pregnancy is one of the most acute and dangerous emergencies which any of us has to deal with. It is often heralded by premonitory 'leaking' of blood before the final rupture leading to haemorrhage, which occasionally may be so severe that there is little time to stop it becoming fatal. It is in the premonitory phase that health practitioners have to call on all their clinical skills in order to make the diagnosis.

Laboratory tests are not generally helpful. For example, the urine pregnancy test may or may not be positive and ultrasound scan will not be expected to demonstrate the ectopic pregnancy though it may detect intra-abdominal bleeding. Laparoscopy is a useful investigation but only in the doubtful case. In the absence of ultrasound and laparoscopy, a culdocentesis may be useful in revealing intra-abdominal bleeding. A sensitive pregnancy

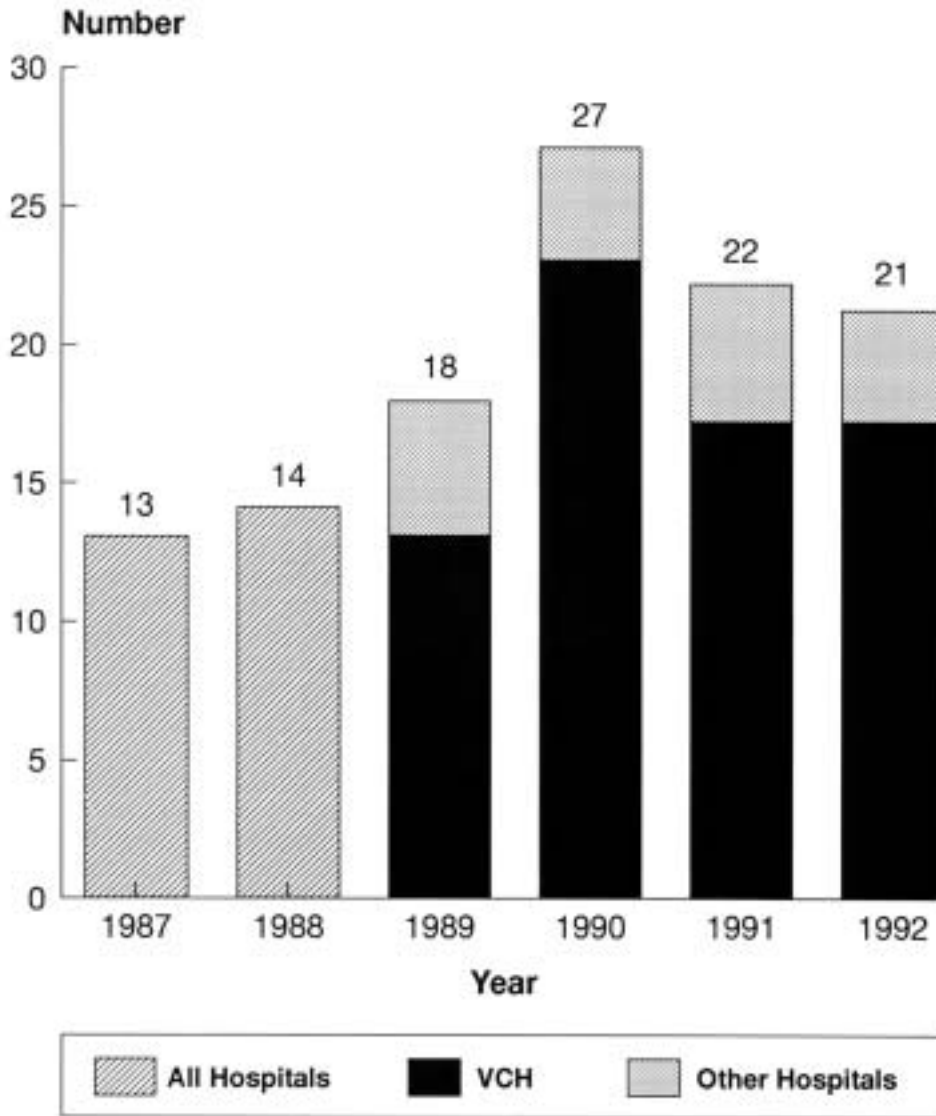


Figure 1. Ectopic pregnancies in Vanuatu by year and institution. Data are from the Vanuatu Department of Health.

test or a serum beta-HCG test, if positive, will help to differentiate the ectopic cases from presumed PID. Usually, however, a carefully taken history and a clinical examination will indicate the need for laparotomy. The 1985-1987 report on confidential enquiries into maternal deaths in the United Kingdom (3) states, "Probably the most important contribution to reducing the risk of death from ectopic pregnancy is an awareness by medical attendants that, in any woman of reproductive age, an ectopic pregnancy may be the cause of

a lower abdominal pain particularly when of sudden onset".

As there is no requirement to register deaths in Vanuatu, the number of deaths from ectopic pregnancy is unknown. Worldwide, ectopic pregnancy is responsible for about 10% of all maternal deaths (4). Even in the United Kingdom, "deaths from ectopic pregnancy which could possibly have been avoided continue to occur" (3). The failure of health practitioners to even consider the diagnosis of

ectopic pregnancy in over three-quarters of the cases in this series, despite the presence of obvious clinical features, is very worrying and indicates that they have not been trained to 'think ectopic pregnancy'. The findings of this study should be used to correct this deficiency in the training of nurses and nurse practitioners in Vanuatu. It is inevitable that unless there is an improvement in the diagnosis of ectopic pregnancy in Vanuatu, young and otherwise healthy women will continue to die unnecessarily.

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