PREGNANCY RELATED ACUTE RENAL FAILURE IN ACCRA, GHANA

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SUMMARY

Over a period of three years ten patients were admitted to the renal Unit of Korle Bu Teaching Hospital with acute renal failure related to pregnancy. Eight occurred in late pregnancy due to antepartum haemorrhage or post partum haemorrhage and two occurred earlier in pregnancy following abortions. Seven of the ten patients required dialysis. One patient died from peritonitis resulting from unexplained bowel perforation. Haemorrhage and sepsis were the major contributory factors causing acute renal failure.

KEY WORDS: Acute renal failure, pregnancy.

INTRODUCTION

Two decades ago in the United Kingdom and Scandinavia acute renal failure (ARF) occurred in 0.0205 per cent of all pregnancies and represented about 2% of all cases of ARF. At that time ARF was a substantial cause of maternal mortality as at least, 20 percent of women with this complication died[1]. The incidence of ARF in obstetrics has declined in recent times in the United Kingdom and Europe possibly because of a reduction in the number of criminal abortions due to liberalization of abortion laws and better antenatal and peripartum care[2]. There are, however, few data on ARF related to pregnancy from tropical Africa or Asia. In earlier reports in Ghana and India 24% and 22% respectively, were due to causes related to pregnancy[3,4]

In this paper we have reviewed cases of ARF related to pregnancy over a 3 year period.

Patients and Management

Between June 1983 and June 1986 ten patients were referred to the Renal Unit with pregnancy related acute renal failure, (ARF) from the Department of Obstetrics and Gynecology of the Hospital. During this period 32,400 patients were admitted for delivery. Diagnosis of ARF was made by the persistence of oliguria or anuria after adequate correction of hypovolaemia and hypotension; failure to induce a diuresis with frusemide 100mg I.V. or mannitol 250mg I.V.; and biochemical evidence of uraemia.

Management was dictated by clinical and biochemical considerations. All patients were placed on a 30g protein, high carbohydrate diet and fluids restricted to 600 ml a day plus an amount of fluid equal to the volume of urine passed in the previous 24 hours. Dialysis was embarked on when the patients' condition continued to deteriorate despite the above measures or when there was biochemical evidence of worsening uraemic hyperkalaemia. Haemodialysis was used in patients who had a caesarian section and peritoneal dialysis was used in patients who had vaginal deliveries. The uterine size posed no difficulty in introducing the dialysis cannula once an "artificial" ascites had been created initially with 2 litres of dialysis fluid using gauge 16 or 14 Medi-cut cannula.

RESULTS

The clinical details of these patients are summarized in Table 1. All eight patients developing ARF in the last trimester of pregnancy had antepartum or postpartum haemorrhage or both. Two patients (cases 2 and 4) had evidence of disseminated intravascular coagulation and haemolysis and both had a raised reticulocyte count (13% and 20%) and plasma bilirubin (107 and196 mmol/l) respectively. All ten patients were anaemic (Table2). One patient (case 4) had polyuric renal failure and in the remainder, the duration of oliguria ranged from three to 13 days. Three patients were managed with conservative measures only, three by haemodialysis and four by peritoneal dialysis.

TABLE 1

CASE	AGE	GESTATION IN WEEKS	BP AT PRESENTATION mm Hg	PRECIPITATING FACTORS
1	28	40	160/100	Post Partum Haemorrhage Twin Pregnancy Pregnancy related hypertension
2	35	30	90/50	Pregnancy related hypertension. Post Partum Haemorrhage Intravascular Haemolysis
3	22	34	70/50	Abruptio placentae Ante-Partum Haemorrhage.
4	31	38	80/50	Abruptio Placentae APH, PPH, DIC Intravascular Haemolysis
5	27	32	130/80	PPH, Pueperal Sepsis
6	25	24	180/130	Spontaneous abortion associated with raised Blood Pressure
7	25	12	100/60	Self induced abortion
8	36	40	70/50	PPH, Placenta Praevia.
9	36	40	130/70	APH, Abruptio Placentae.
10	34	36	100/60	APH, Abruptio Placentae.

APH - Ante Partum Haemorrhage.
PPH - Post Partum Haemorrhage.
DIC Dissiminated Intravascular Congulation.

DISCUSSION

The eight patients with peripartum renal failure reported in this study were seen over a period of three years. During this same period 32,400 patients were delivered at Korle Bu Maternity-Hospital giving a prevalence of 0.2 per 1000 deliveries. Maternal mortality for the same period was 7 per 1000 deliveries (calculated from monthly maternal mortality records of Department of Obstetrics and Gynecology, University of Ghana Medical School, Accra, Ghana, for the period under review, unpublished). It appears inevitable from these figures that the incidence of ARF observed was an underestimate and that some patients died from unrecognized acute renal failure. Likewise the death rate from abortion at Korle Bu Hospital is estimated at 6 per 1,000 abortions. Only two patients were seen with renal failure following abortion and this is likely to be an underestimate. A major factor contributing to this underestimation is likely to be due to patients arriving in hospital critically ill from blood loss or severe sepsis. Some of these patients die despite attempts at resuscita-

TABLE 2							
Case	g/1	WBC x 109/1	Plasma Urea (mmo1/1	Creatinine (umo1/1	Duration of Oliguria in Days	Management	Outcome
1	79	17.7	28.0	580.0	9	P.D.	RECOVERED
2	42	15.0	14.0	264.0	5	N.D.	RECOVERED
3	36	12.0	10.0	237.0	3	N.D.	RECOVERED
4	55	14.7	25.0	615.0	POLYURIC	H.D.	DIED
5	64	26.5	23.0	774.0	5	P.D.	RECOVERED
6	48	11.4	43.0	1283.0	11	P.D.	RECOVERED
7	60	13.0	32.0	703.0	13	P.D.	RECOVERED
8	45	18.0	10.0	229.0	10	H.D.	RECOVERED
9	80	23.3	19.0	642.0	11	H.D.	RECOVERED
10	80	18.0	40.0	756.0	7	N.D.	RECOVERED

H. D. - Haemodialysis. P.D. - Peritoneal dialysis. N.D. - No dialysis

tion, the ARF having been overlooked. Postmortem examination is seldom helpful.

All except one of our patients were oliguric. Simple, careful fluid intake and output charts would therefore detect oliguria and renal failure in most patients. Haemorrhage and sepsis are recognised as the major cause of maternal morbidity and mortality in Ghana[5,6]. Our data suggest that some of these deaths may be due to ARF and can be prevented by appropriate management including dialysis. In the absence of dialysis facilities in most parts of Ghana, better antenatal and peripartum care would help reduce the incidence of obstetric complications leading to renal failure and subsequent maternal death.

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