

Acute Renal Failure in Obstetrics

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Summary: The renal failure is usually an acute tubular necrosis which may develop with disseminated intravascular coagulation. Cortical necrosis is more common late in gestation or immediately postpartum. The two rare forms of acute renal failure in pregnancy are (a) acute renal failure (ARF) in association with acute fatty liver of pregnancy & (b) Idiopathic Postpartum renal failure (Sibai et al, 1993).

Retrospective study of 20 cases is presented. PIH was found in all cases, of these 16 had abruptio placenta, 2 had septicaemia & 2 had DIC. Renal failure has developed in postpartum period in all cases. ARF is responsible for about 2.5 % of maternal deaths in pregnancy (Bhatt 1997).

75 % cases recovered while 25 % died inspite of institutional management. Renal cortical necrosis was found on renal biopsy in 80 % cases.

If patient's problems which caused ARF can be treated, the resultant tubular necrosis & anuria can usually be treated. Bilateral cortical necrosis of kidneys is more serious lesion. Recovery of renal failure may be delayed & incomplete (Dhakal et al, 1990).

Introduction

ARF is clinical syndrome characterised by a marked decrease in glomerular filtration rate, rising blood urea nitrogen & S Creatinine levels & usually by oliguria (urine output less than 400 ml per day). ARF in obstetrics occurs in those with PIH complicated by abruptio placenta, coagulopathy, haemorrhage with secondary hypotension, septicaemia etc.

Material & Method

A retrospective study of one year of 20 cases of institutional & referred from outside as ARF due to obstetric complications is done with all details including biopsy & post-mortem reports, where possible.

Observation & Discussion

Although ARF is unusual complication of pregnancy, it accounts for 50% of all episodes of ARF in women (Fox et al, 1991). Renal failure has a bimodal distribution during pregnancy. The first peak at 15-16 weeks is related to illegal abortion with septicaemia, use of toxic substances or hypovolaemia due to haemorrhage, DIC etc (Knuppel, 1985).

- ARF is more common in multipara/elderly due to high

incidence of obstetric complications

- Out of 20 cases - 11 had preterm still born babies.
- 9 had full term babies where 6 were SB & 3 live born.
- 4 had operative delivery - 1 forcep & 3 LSCS.

Table - I

Obstetric Complications in ARF

Severe PIH	20
Eclampsia	2
Abruptio Placenta	16
DIC	2
Septic Shock	2
PPH	1
Intrauterine foetal death	17

It can be seen that renal failure is always preceded by PIH which is responsible for almost all other complications. If properly controlled antenatally, many cases of renal failure can be prevented.

All cases were postpartum. 50% patients developed ARF in 24 hrs & 90% within 72 hrs of delivery.

15 patients recovered from ARF after various forms of management including peritoneal & haemodialysis, 5 died inspite of active management & usually within 7 days of Anuria.

Table II

Interval between delivery & Anuria & Anuria & Final outcome

Duration	Delivery/ Anuria Interval	Anuria/Final Outcome Interval	
		Survived	Expired
24 hrs.	10	0	0
24-48 hrs.	4	2	1
48-72 hrs.	4	3	0
4-7 days.	2	6	3
>7 days.	0	4	1
Total	20	15	5

Post partum management was in the form of blood transfusion, fibrinogen cryoprecipitates infusion or surgical like D & E, internal iliac ligation or subtotal hysterectomy. After establishment of ARF peritoneal or haemodialysis was performed with associated medical management.

5 patients died, Needle biopsy of kidneys was performed in all cases & liver biopsy in 4 cases.

Cortical necrosis in 4 cases & tubular necrosis in 1 case was found.

In liver biopsy - pseudo acute yellow atrophy of liver in 3 cases & normal histology in one case was found.

Good antenatal care & hospital delivery with early transfer to renal dialysis unit are essential to minimise this hazard. Renal transplant may help these patients.

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