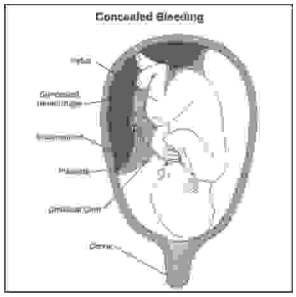
ORIGINAL PROF-1310

PREGNANCY RELATED ACUTE RENAL FAILURE;

AN EXPERIENCE AT NEPHRO-UROLOGY DEPARTMENT CHANDKA MEDICAL COLLEGE TEACHING HOSPITAL LARKANA



DR. QURBAN ALI SHAIKH
Professor of Nephro-Urology Department
C.M.C Teaching Hospital, Larkana, Sindh

Dr. Ghulam Shabir Shaikh
Consultant Pathologist
C.M.C Teaching Hospital, Larkana, Sindh

DR. NISAR AHMED SHAIKH
Consultant Urologist
Civil Hospital Dadu, Sindh-Pakistan.

Dr. Abdul Rasheed Shaikh
Associate Professor of Nephro-Urology Department
C.M.C Teaching Hospital, Larkana, Sindh

DR. AKBAR ALI SOOMRO
Assistant Professor Pathology Department
C.M. College Larkana, Sindh

ABSTRACT... drnisarshaikh@yahoo.com **Introduction:** Acute renal failure (ARF) during pregnancy is rare event and continues to be common in developing countries. **Period:** 1998-2005. **Setting:** Nephro-urology unit at Chandka Medical College, Larkana. **Study Design:** Retrospective study. **Patients & Methods:** 294 cases of Acute Renal Failure were treated. Among these cases, 72 (24.5%) were pregnancy related in origin. All of these patients were known to be previously healthy. **Results:** Pregnancy related Acute Renal Failure was associated with, post partum hemorrhage was in 20(27.7%), intra uterine death in 20(27.7%) antipartum hemorrhage was 18(25%), preeclampsia-eclampsia in 8(11.11%) and septic abortion and puerperal sepsis in6(8.3%). Among these patients 65(90.3%) required dialysis therapy because of moderate to severe azotemia. 35(48.61%) patients recovered normal function. 30(46.15%) developed irreversible renal function. **Conclusion:** Early reorganization of this disorder, improvement of health infra structure, antenatal health care and intensive supportive therapy, can reduce maternal and fetal mortality and morbidity.

INTRODUCTION

Acute renal failure is the most challenging clinical problem when it occurs during pregnancy. In recent years, the incidence of acute renal failure has decreased in developed countries but still continues to be common in developing countries[1]. It is a rare complication of pregnancy with due to virtual disappearance of septic abortion and better perinatal care[2,3]. However, the care of the woman diagnosed with acute renal failure is a challenge for Nephrologist and his team.

It requires an understanding of normal physiology of kidney in pregnancy and the natural history of different renal diseases when pregnancy occurs. During

pregnancy significant alteration are seen in renal blood flow and glomerular filtration, resulting changes in normal renal laboratory values when these normal renal adoption are coupled with pregnancy induced complication or pre-existing renal dysfunction. Important causes of prerenal azotemia in pregnancy include hyperemesis gravidarum and uterine haemorrhage, especially if it is unsuspected as in abruptio placentae.

Among the infections acute pylonephritis and septic abortion are common. The commonest pathological changes in the kidneys in Acute Renal Failure are acute tubular necrosis while cortical necrosis occurs in some cases especially with abruptio placentae, pre-partum and post partum bleeding. Conditions that cause renal failure unique to pregnancy must always be considered when renal function deteriorates in the last trimester or the postpartum period. By understanding the cause of acute renal functional deterioration in pregnancy, a logical differential diagnosis can be established, allowing appropriate decisions to preserve both maternal and fetal well-being[4].

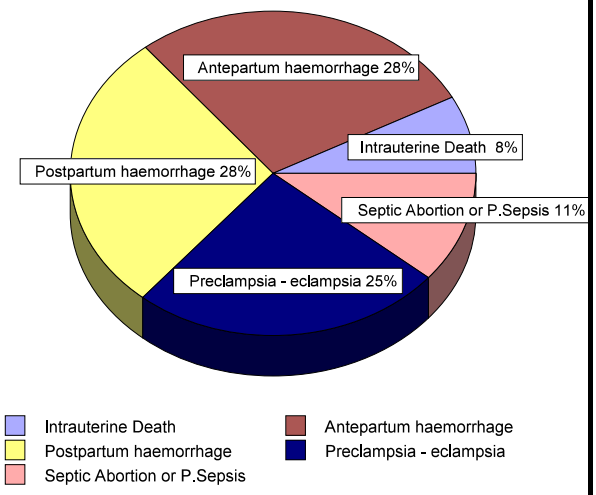
PATIENTS AND METHODS

This retrospective review was conducted on cases of pregnancy related acute renal failure between March 1998 to March 2005 at Nephro-Urology department Chandka Medical College Hospital Larkana. All patients were referred with deterioration of renal function after delivery. Patients with systemic disease and pre-existing renal disease were excluded from this study. All patients were investigated like Haemoglobin, Blood urea, serum creatinine, blood sugar, serum electrolytes, HBsAg, HCV and ultrasonography. Those patients which have moderate to severe and those patients which did not respond to conservative treatment were switched on to haemodialysis.

RESULTS

During the year March 1998 to March 2005, we treated 294 cases of acute renal failure. Among them 72 (24.5%) were pregnancy related origin. Age of patient was between twenty to forty years. Maximum numbers of patients 64(88.9%) were between 22 and 36 years of age. All of these patients were known to be previously healthy. Pregnancy related Acute renal failure was present in 18(25%), postpartum haemorrhage in 20 patients (27.7%), antepartum haemorrhage, intrauterine death in 20 patients (27.7%), peeclampsia – eclampsia in 8 (11.1%) and septic abortion or puerperal sepsis in 6 (8.3%) (Fig. 1).

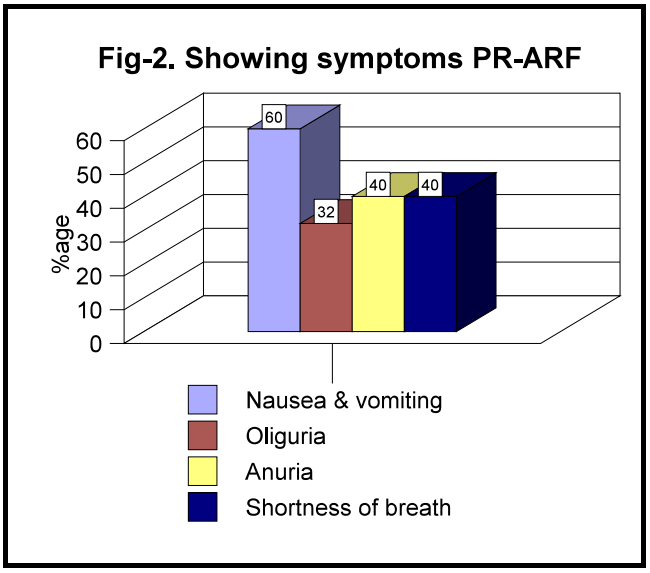
Fig-1. Pie-chart showing causes of the PR-ARF

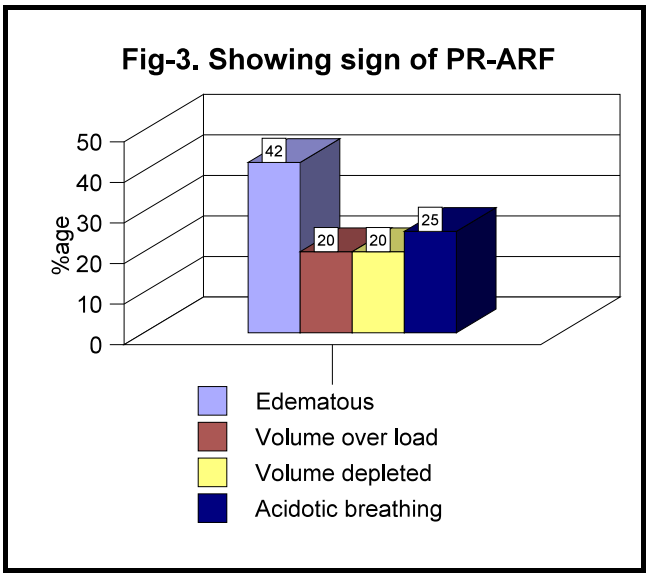


Nausea and vomiting were commonest symptoms present in 60 (83.3%) patients while 32(44.4%) patients were oligouric, 40 (55.6%) were anuric. 20 (27.6%) patients had breathlessness at the time of presentation (Fig 2). 42 patients (58.3%) were volume overload, while 20 (27.7%) patients were volume depleted. 50 (69.4%) were clinically acidotic (Fig. 3).

Blood Urea was less than 100 mg/ 100ml in 16 (22.2%) patients while 36 (50%) were having more than 100 mg/ 100ml and 20 (27.8%) were having greater than 200 mg/ 100 ml. serum cratinine was 2 to 6 mg/ 100ml in 34 (24.2%) patients while 38 (52.8%) has more than 6 mg/ 100 ml. 38 (52.8%) patients had increase potassium level and 34 (47.2%) had non specific hyperkalemic ECG changes. 20 (27.8%) patients had pulmonary edema on X-Rays chest (Fig 4). 35(48.61%) patients were recovered normal renal function, while 30(46.15%)

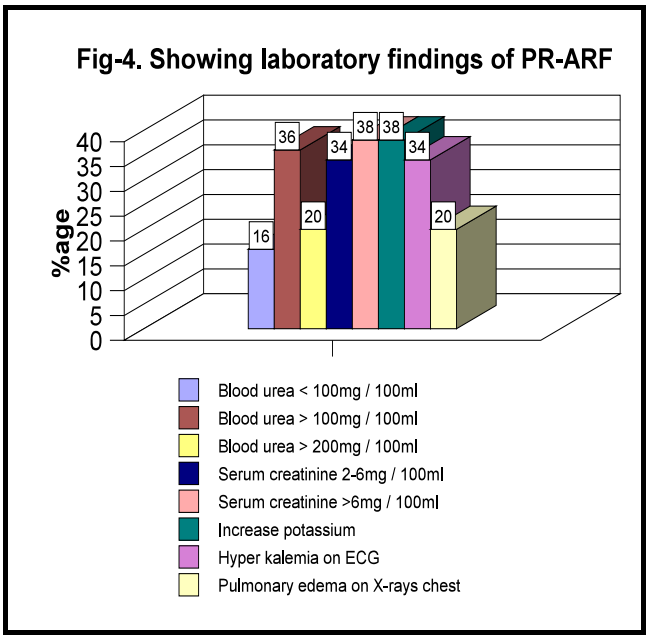
developed irreversible renal function.





DISCUSSION

Pregnancy related acute renal failure occurred in 72 patients from 294 patients of acute renal failure. These figures are very frightening and quite high as compared to the western population but comparable with logos study [5]. In developed world the incidence of pregnancy related acute renal failure has substantially came down as reported by various observers.



In report by Canavese[6], the incidence of pregnancy related acute renal failure fell from 40% in 1958 to 25% in 1978. Another report based on 20 years observation states that the incidence of pregnancy related acute renal failure fell from 34% to 2.8% which is probably due to legalization of abortion in the western world. Now incidence of the pregnancy related acute renal failure is 1: 2000 to 1:5000[7,8]. A Pakistani study has reported that the incidence of pregnancy related acute renal failure is much higher than reported in literature and 50% of their patients did not show any recovery in kidney function.

In our study main causes were postpartum haemorrhage, antepartum haemorrhage, intra uterine death, preclampsia – eclampsia which is comparable to study of Naqvi et all 1996[5]. Our study include 6 cases with septic abortion while in pertuset and Grunfeld 1994 also reported less of cases[1]. This could be attributed to decline in septic abortion since 1978 due to antibiotic era. Mortality rate related to acute renal failure was low in the study by Ventura et al (less than 2%) and is due to improved perinatal care, While in our study mortality rate was 13% which is comparable by Naqvi et al 1996[5].

High death rate is due to poor health infrastructure and lack of antenatal health clinics leading to development of

major complication at the time of child birth and most deliveries conducted at home by untrained personnel in majorities of cities and villages of the country. In our study 30(46.15%) patients needed permanent dialysis and while 35(48.61%) recovered normal renal function which is comparable to Ali et al 1998 and Naqvi et al 1996[5,7,9].

REFERENCES

1. Pertuiset N, Grunfeld jp. **Acute renal failure in pregnancy** Clin Obs Gynaecol 1994: 8(2): 333-51.

2. Selchk NY, Tonbul HZ, San A, Odabas AR. **Changes in frequency and etiology of acute renal failure in pregnancy** Ren fail 1998;20;(3):513-7.

3. Grunfeld JP, pertuiset N. **Acute renal failure in pregnancy.** Am J Kidney Dis: 1987;9(4):359-62.

4. krane NK. **Acute renal failure in pregnancy.** Arch intern Med 1988;148(11):2347-57.

5. Naqvi et al 1996 **Acute renal failure of Obstetrical origin during 1994 at one center** Renal fail 1996;18(4) 681-83.

6. Ventura JE, Villa Me, Mirzaji R, Ferreiros R **Acute Renal failure in pregnancy.** Renal fail 1997;19(2):217-20.

7. Ali et al. **A retrospective study of acute renal failure in Multan: an etiological perspective.** Pakistan's J med Sci 1998;14(2):139-46.

8. Kumar H, Sina DK, Kedalays PG, Raja R and Usha. **Acute renal failure in pregnancy in developing countries: 20 years of experience Ren Fail.** 2006: 28(4):309-13.

9. Stratta P, Besso L, Canavese C, Grill A, Todros T, Benedetto C, Hollo S, Segoloni GP. **Is pregnancy-related acute renal failure a disappearing clinical entity? Ren Fail.** 1996 Jul;18(4):575-84.

HE WHO WANTS TO DO EVERYTHING WILL NEVER DO ANYTHING

Andre Maurois