Obstetrical and Gynecological conditions requiring intensive admission from Basra maternity and child hospital A five year survey

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الخلاصة

يهدف البحث الى متابعة حالات النسائية والتوليد التي ارسلت من مستشفى البصرة للولادة والاطفال الى مراكز العناية المركزة في المحافظة والتابعة الى مستشفيات اخرى.معرفة اسباب الارسال.ومتابعة العلاجات لهذه الحالات ومعرفة نتائج الوفيات والمضاعفات.

تمت خلال خمس سنوات دراسة للحالات منذ الاول من كانون الثاني 2004 ولغاية الاول من كانون الثاني 2009 هناك 119 مريضة ارسلت الى مراكز العناية المركزة ،التداخلات العلاجية ونتائجها والمضاعفات، وحالات الوفيات.

كان معدل عمر الحالات المرسلة الى العناية المركزة حوالي(6- 29.8) سنة .اهم اسباب الارسال كان النزف الشديد يتبعه مشاكل التخدير العام ثم ارتفاع ضغط الدم وكانت النسب بالتتابع(42.8%)،(21.8%)،(18.4%)وكذلك متلازمة عدم تخثر الدم (36.1%)والعجز بالجهاز التنفسي(26.8%)اهم المضاعفات وحوالي (50.4%)من الحالات احتاجت الى عملية نقل الدم و (26.5%)وضعت على جهاز التنفس المساعد وحوالي(20.1%)احتاجت الى عملية بزل الدم.

استنتج ان مراقبة ومعالجة حالات النزف مع متابعة التنفس الاصطناعي حال حدوثها اهم الاسباب التي ادت الى الوفاة . لذلك العناية الصحية المتخصصة قبل وبعد الدخول الى مراكز العناية المركزة قد تقلل من نسبة الوفيات للامهات.

Abstract

Objective:- To assess the obstetrical and gynecological cases admitted to ICU, causes of admission, intervention required, and their morbidity and mortality.

Methods :- During the five years period from 1st of Jan 2004 till 1st of Jan 2009, 119 patients were admitted to ICU. Cases were reviewed in detail including age, parity, reason for ICU admission, clinical features, response to intervention and maternal outcome.

Result :- mean maternal age was (29.8±6) years the main causes for admission massive bleeding, complications of anesthesia followed by hypertensive disorders of pregnancy

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(42.8%) (21.8%) (18.4%) respectively, coagulopathy (36.1%) and respiratory failure (26.8%) were the main organ failure, most the admitted patients needed transfusion (50.4%) and ventilatory support (26.50%) specialized intervention like dialysis and surgical intervention were also required (20.1%) .
Conclusion:- Invasive hemodynamic monitoring and ventilatory support were the two main interventions, improving quality of care before and after admission to ICU may reduce maternal mortality.

Introduction

The pregnant and gynaecological patients with medical or surgical complications represents unique challenge to the intensive care specialist and often requires the management expertise of several subspecialists, although some tertiary care centers have maternal fetal ICUS [1], many do not and use a general medical ICU to assist in the care of critically ill pregnant patients [2], some literature review an obstetrical and gynecological admissions to intensive care unite. Demonstrated a number of studies from Europe [3], North America [1], Australia [4], Africa [5], and Asia [6]. The admission rate varies from country to country and quoted to be: 0.07%, 0.12%, 0.26%, 0.3%, 0.9% of all deliveries for obstetric admission [1, 3, 4, 5, 6]. The ratio in one study was 71%. Due to obstetrical and 29% for non obstetrical complications[7]. In a study of mixed intensive care, the admission of gynecological and obstetric cases represented 14% of intensive care unit admission[8].The maternal mortality quoted in literature varies from 21.7/100.000 deliveries in maternal fetal medicine ICU to 25% of intensive care admission [9]. It was found that massive blood loss due to obstetrical problems such as APH, PPH and eclampsia and coexistent medical or surgical diseases stand as the most common diagnosis on admission to ICU[5]. Our objective in this paper to study all the obstetrical and gynaecological conditions requiring transfer to ICUS to three major general hospitals in Basra which has an ICU,

because our hospital the Basra maternity and child hospital un fortunately doest have and ICU and cannot deal with critically ill patients. Then we assess the spectrum of the diseases for admission, intervention and the outcome. This to our Knowledge is the first report from the Iraq.

Methods

This is a prospective study done at Basra maternity and child hospital during 5 years from the first of January 2004 to the first of January 2009. Our hospital dose`t contain an ICU so all patient who had been transferred from Basra maternity hospital to 3 major general hospital in Basra which contain ICUS, were reviewed. The following data was obtained maternal age, parity and the presence of medical diseases. The obstetrical patient was defined as any patient who was pregnant or up to one week postpartum. The gynaecological patient was defined all non pregnant patient who were admitted for gynaecological disorders. A proper clinical history, the cause for ICU admission was obtained and recoded, the diagnosis of their problems as well the complications. were recorded, the methods of treatment in ICU were obtained lastly the maternal outcome including the mortality was obtained, all been reviewed until they transferred to the ward or they die.

Results

Table -1- Age and parity.

Age (years)	Parity n= 119			Total
	Po	P 1-4	P 5+	
≤ 14	2	-	-	2
15-20	4	5	4	13
21-25	3	4	5	12
26-30	2	6	3	11
31-35	1	3	18	22
>35	6	10	43	59
Total	18	28	73	119

There were (194406) patients were admitted to Basra maternity and child hospital, around (110201) for obstetrical reasons and they represent (56.6%) and around (83835) patients for gynecological reasons (43.1%).

The mean age was 29.9 ± 6 years the youngest being 13 years and the oldest being 56 years Around 18 (15.1%) were Primgravidia while (43) patients (36.1%) was grandmultipara.

Table -2- causes of admission to ICU.

Cause		
Uncontrolled Bleeding with or without DIC		
- Placental causes		
• APH	6	5.04
• A.P	5	4.3
• PPH	20	16.8
Ectopic pregnancy	3	2.5
Rupture uterus	9	7.5
Birth canal injury	2	1.6
- Abnormal vaginal Bleeding	3	2.5
• Ca Cx	1	0.8
• Ca endometrium	1	0.8
• Molar pregnancy	1	0.8
	51	42.9
Complications of anesthesia		
• Allergy (anaphylaxis)	3	2.5
• Delay recovery and awake	11	9.2
• Succinyl choline apnea	8	6.7
• Failure of tracheal intubation	2	1.6
• Suspected Aspiration	2	1.6
	26	21.8
Hypertensive disorder with pregnancy		
• pre-eclampsia / eclampsia	18	15.1
• HELLP syndrome	4	3.3
	22	18.4
Pulmonary causes		
• Embolism	11	9.2
• Pneumothorax	2	1.6
	13	10.9
Septic shock		
• puerperal sepsis	4	3.3
• septic shock	3	2.5
	7	5.8
Associated medical disorders		
• Cardiac problem	2	1.6
• DVT	2	1.6
• Others (D.M, respiratory)	3	2.6
	7	5.8

*** APH Ante partum haemorrhage**
*** A.P Abruptio placenta**
*** PPH Postpartum Haemorrhage**
*** Ca Cx Carcinomia of the Cervix**
*** DVT Deep venous thrombosis**
*** D.M Diabetes mellitus**

Table -2- shows that the most common cause for admission to ICU was massive bleeding with or without DIC and it represents around (42.8%) and it mostly occurs following PPH (16.8%).
While the second cause for admission was anesthesia complications (21.8%) followed by hypertensive disorders with pregnancy which represents (18.4%).

Table -3- Major organ failure (maternal morbidity).

Organ failure	N=119	%
Coagulotary	43	36.1
Respiratory	32	26.8
Neurological	9	7.5
Cardiovosulor	8	6.7
Hepatic	7	5.8
MOD	12	10.08
Nil	28	23.5

* MOD multiple organ dysfunction

It shows that (36.1%) develops coagulatory disorder following by (26.8%) develops respiratory disorder and a significant numbers around (10.08) develops (MOD).

Table -4- Treatment given in ICU.

TRT	n	%
Whole blood or PCV transfusion	40	33.6
Fresh frozen plasma	12	10.08
Platelets transfusion	6	5.04
Fibrinogen	2	1.6
Total	60	50.4
Ventilatory support	31	26.05
Dialysis	16	13.4
Surgical intervention	8	6.7

Table -4- Shows that (50.4) of the patients admitted to ICU need transfusion mostly whole blood transfusion and around (26.05%) need ventilatory support while only (13.4%) need Dialysis.

Table -5- Causes of maternal death.

Cause	n	%
1. Massive hemorrhage with DIC	6	28.5
2. respiratory failure	4	19.05
3. sepsis	2	9.2
4. mulin organ dysfunction with acidosis (MOD)	5	23.8
5. medical causes + Pul embolum	4	19.04
Total	21	100

Table -5- Shows that massive bleeding (28.5%) was the main cause of maternal death followed by (MOD) (23.8%).

Discussion

Pregnancy and Gynaecological diseases in a women can affect every organ system, so a critical care aspect in obstetrics are varied and demand that critical care practitioners have a thorough knowledge of fetal and maternal changes in physiology as pregnancy progress [(10)]. This study was therefore under taken to review all critically ill obstetric and gynecological patients who been admitted to ICUS their presentation, diagnosis, treatment and mortality. Mean maternal age was 29.8 ± 6 years the youngest being 13 years while the oldest being 56 years Sheela *et al* [(11)], have reported mean maternal age 28 years. Which is comparable to that in our study. Majority of women in our study were multigravidas similar to that reported by Sheela *et al* [(11)].

Our hospital don't have an ICU so this paper study the obstetric and gynecological cases which need to be transferred to ICUS in 3 main general hospitals in Basra and they were totally 119 through a 5 years study the main reason for admission was hemorrhagic complications (42.8%) followed by anesthesia complications (21.8%) then hypertensive disorders with pregnancy (18.4%) as shown in table two and this finding was in contrary to Mabie and Sibai [(1)], who found in their study that most of their patients admitted to ICU was

hypertensive disorders (46%) while massive hemorrhage was only (10%).

The incidence of failure to intubate the trachea for general anesthesia at Basra maternity and child hospital is infrequent while laryngeal Oedema with airway obstruction is an uncommon but recognized complication of preclampsia, eclampsia so tracheal truma with surgical emphysemia also was found and reported in our hospital even infrequently but hard training for intubation is needed to ovoid this complications, improvement of the anesthetics drugs origion is need to reduce the delay recovery and allergy and this was in agreement with a study done by Tlawthorene L [12].

As mentioned before all these patients been admitted to general ICUS, so Intensive care unit management of these patients was conducted by using some procedures which are not conventional to obstetrical and gynecological Practice[1].

In a smilar study of obstetric and gynecological patients admitted to the surgical ICU at King Edward VIII hospital in South Africa [5]. It was found that the management of these critically ill patients form a significant proportion of obstetric and gynecological practice which form a major workload if surgical ICUS as the management of such patients requires an understanding of the physiological changes of normal and abnormal pregnancies therefore. They as we are recommends that all large obstetrical units in developing countries should establish their own ICU in order that patient care, health personnel training and continuing health care education will decrease risk of transfer the ill patients to general ICUS [1, 5].

Table No.3 shows that (36.1%) of our patients develops coagulatory disorders and around (23.5%) develops no organ dysfunction while table no.4 shows that the majority of our patients (50.4%). Receives transfusion and they need not more than two days to study in the ICU and they can be dealt within a sort of intermediate care unit. The argument for a high dependency care unit to admit seriously ill patients can face major problems. Inability to use invasive monitoring like

direct arterial blood pressure monitoring, central venous and pulmonary artery pressure and wedge pressure which is needed in some patients.

On the other hand no midwives are available who can for seriously ill patients as intensive care nurses, but some seriously ill patients would need ICU admission and this was in agreement with a study done by Morgan [13], lastly table 5 shows that the maternal mortality in our study was (17.6%) which was very high as compared to that reported in developed countries [14], and this can be explained that majority of our patients belongs to the rural a with no antenatal care and from where timely hospitalization and intervenation is delayed and majority of the complications and deaths are prevenlable by essential antenatal care of domiciliary and peripheral level[11]. Presence of skilled health care staff and trained birth attendants at deliveries and Skilled anaesthetiologests result in early referrals in case of complications, and thus prevention of most of the maternal deaths.

Care of the critically ill pregnant and gynecological patient requires a true multidisciplinary approach for optimal outcome, Early referral to a tertiary care center coupled with invasive hemodynamic monitroring and ventilatory support improves the outcome of such patients [15].

We conclude that management of major obstetrical and gynecological emergencies require an understanding of medical conditions influence on the patients, and the physiological changes of normal and abnormal pregnancies. Intensive care unit management is an essential part in raising the level of patient care, health personnel training and continuing health care education may be improved, also we found that invasive hemodynamic monitoring and ventilatory support were the main intervention. Improving quality of care before and after admission to ICU may reduce mortality.

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