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Pregnancy outcomes in chronic Hypertension among Libyan women

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Abstract

Background: Hypertension is the most common medical disorder encountered during pregnancy،occurring in 6-8% of pregnancies. Women with hypertensive disorders of pregnancy(HDP) are all at increased risk of complications antenatally and in the puerperium.

Aim of study: To identify the maternal and fetal outcome in patients with chronic hypertension.

Materials and methods:Retrospective case series study, it was conducted in Tripoli Medical CenterTripoli/Libya during the year 2017. The study population was all pregnant womenadmitted to Obstetrics and GynecologyTripoli Medical Center in 2017. A total of 1996 deliveries wererecorded in 2017, among those about 50 cases had chronic hypertension. Thefollowing data was obtained from the files: the age, gravidity, parity, history ofprevious abortion, gestational age, maternal complications, mode of delivery،neonatal outcome.

Result: Theprevalence of chronic hypertension in pregnancy was 2.51% ,with mean age was (33.1 ± 6.9 years). The maximum age of thepatients was 44 years and the minimum age was 19 years. Most of the agedistribution of the patients in this study was between 31 and 40

years. Most of the patients were multigravidas and multifarious. The most prominent maternal complications was preeclampsia, renal complications , abruption placenta and HEEL Psyndrome. With regard neonatal complications, around 6% stillbirth, 4% IUGR, 8%prematurity, 2% RDS, and 2% hypothermia.

Conclusion: Pregnant women with chronic hypertension have significantly increased risks of maternal and perinatal morbidity and mortality. There is an increased risk of cesarean section rate, maternal complications such as preeclampsia, renal complications, ante partum heamorrg he, and HEELP syndrome. Neonatal complications also increased such as repository distress syndrome ,intra uterine growth retardation, stillbirth, low birth weight and prematurity.

Keywords: preeclampsia chronic hypertension, obstetrics. Complications of pregnancy..

Introduction:

Chronic hypertension (CH)is the main risk factor for vascular and neurological complications around the world, which are the first cause of death in high and middle income settings,.[1,2]The American Heart Association 2017 Guideline for Hypertension Detection in Adults considers systolic blood pressure>130mmHg or diastolic blood pressure> 80mmHg as the first stage of hypertension. The diagnosis during pregnancy is defined as systolic blood pressure levels> 140 , diasystolic 90mmHg ,previous to conception or before 20 weeks of gestational age.[3] The incidence of hypertension has increased significantly over the last 10 years, with an estimated 40–50% rise,[4,5] complicating up to 10% of pregnancies.[6] International Society For The Study of Hypertension In Pregnancy's (ISSHP) classification of hypertensive disease in pregnancy include pre-eclampsia, gestational hypertension, chronic hypertension (including essential or secondary) and pre-eclampsia superimposed on chronic hypertension. [7] Women with chronic hypertensive complication before pregnancy have increased risk of adverse maternal and perinatal outcomes.[8]. Major complications of hypertensive disorders during pregnancy are HELLP (hemolysis, elevated liver enzymes, and low platelets syndrome and eclampsia hepatic failure, renal dysfunction[9] . also can lead to higher incidence of prematurity, fetal growth restriction, neonatal respiratory difficulties, and increased frequency

admission to neonatal intensive care unit. And even in more severe forms, causes only minimal increased risk for perinatal or fetal death[10] . There is still limited information in Libya about pregnancy out come in chronic hypertension , therefore the study is presented. To know the outcome of pregnancy in chronic hypertension.

Aim of the study: To determine the maternal and neonatal outcome in patients with chronic Hypertension, and specific objective ; to know the prevalence of chronic hypertension in the period of the study, and to determine coexisting risk factors of chronic hypertension.

Materials and Methods:

Retrospective case series study reviewed of medical files delivered at Tripoli medical center .A total of 1996 deliveries were recorded in ،2017among those about 50 cases had chronic hypertension. The following data was obtained from the files; the age, gravidity, parity, history of previous abortion،gestational age, maternal complications, mode of delivery, neonatal outcome.the prevalence was calculated by number of chronic hypertension divide by total number of deliveries in the period of study multiple by 100 result was 2.51%. Statistical analysis was computerized using the Statistical Program for Social Sciences (SPSS version 21) that used for data entry and analysis into;. Descriptive statistics were used and all results are presented as frequencies, means ± standard deviation and percentages.

Ethical approval: Ethical approval and clearance from the hospital was obtained to conduct the study

Results:

A total of 1997of deliveries at the Tripoli medical center. 50 case chronic hypertension were identified , and prevalence of that disease was 2.51%. During the study period,The age of the hypertensive patients ranged between 19 and 44 years with a median of 33.5 ,and the mean was 33.1±6.9 years. The highest percentage was patients between 31and 40 years which account for 46%, the result showed that more than half of the patients werehouse wives (56%). (Table 1).

Table (1). Distribution of Sociod emographic charatertic (N=50).

Variables	No (%)
Age	
Age mean ±SD years	33.1±6.9 years
≤ 20 years	2 (4%)
21 – 30 years	15 (30%)
31 – 40 years	23 (46%)
> 40 years	10 (20%)
Occupation	
House wife	28 (56%)
Teacher	6 (12%)
Employee	5 (10%)
Other	5 (10%)
Nurse	4 (8%)
Student	2 (4%)

The majority of the hypertensive patients were multigravidas (74%).The gravidity ranged from 1 to 11pregnancies with a mean of 3.6 pregnancies. Table (2). More than half of them were multifarious (64%). The parity ranged from para 0 to para 7 with a mean of 2 children. Figure (1).Regarding the abortion history, 50% had no previous history of abortion, 38% had between one to two abortions.The abortion ranged between zero to four abortions. The mean gestational age was 37.1 ± 2.6 weeks, most of the hypertensive patients delivery term babies were (66%). 6% for post data .

Table (2.). Distribution of Obstructed character(N=50).

Variables	No(%)
Gravidity	
Prim gravidas	13 (26%)
Multigravidas	37 (74%)
History of abortion	
No history of abortion	25 (50%)
1 – 2 abortions	19 (38%)
> 2 abortions	6 (12%)
Gestational Age	
Preterm	14 (28%)
Term	33 (66%)
Postdate	3 (6%)

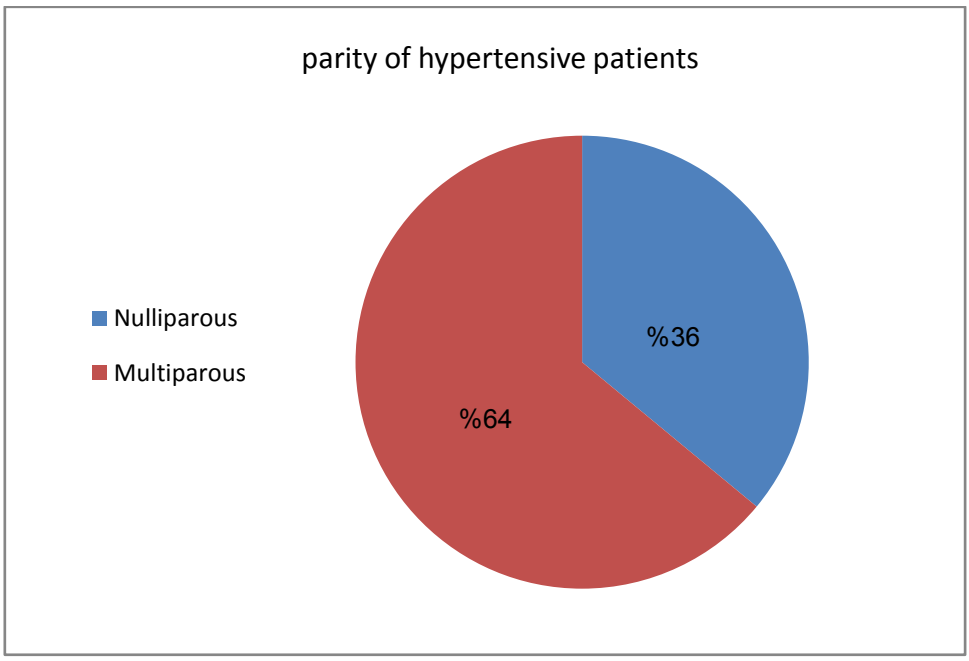

Figure (1). Distribution of hypertensive women according Parity

In respect to maternal complication, most of the patients had no complication (76%). But such complication reported as the following; 4%abruptio placenta, 4%

preeclampsia, 10% renal complications, 2% HELL syndrome and 4% more than one complication.%50half of the patients Delivery route was normal vaginal delivery, 48% by cesarean section (14% elective and 34% emergency) and only 2% by forceps. As table (3).

Table (3). Distribution of Maternal complication(N=50).

Variables	No(%)
Maternal complication	
No complication	38 (76%)
Renal complications	5 (10%)
Pre eclampsia	2 (4%)
Abruptio placenta	2 (4%)
More than one complication	2 (4%)
HELLP Syndrome	1 (2%)
Mode of delivery	
Normal vaginal delivery	25 (50%)
Emergency C/S	17 (34%)
Elective C/S	7 (14%)
Forceps	1 (2%)

Regards the neonatal gender, most of the newborns were males (64%). About 30%were female, 4% were twins (both females) table (4).And approximately 74% of the newborn had normal weight, 18%had low birth weight and only 3 cases (6%) was large baby (macrosomia) figure (1).Neonatal complications were as the following; majority of them had no complication(78%), 6% stillbirth, 4%intrauterine growth retardation , 8% prematurity, 2% respiratory distress syndrome, and 2% hypothermia.

Table (4). Distribution of neonatal outcome (N=50).

Variables	No (%)
Neonatal gender	
Male	32 (64%)
Female	15 (30%)
Twins (Both females)	2 (4%)
Twins (Male and Female)	1 (2%)
Neonatal complication	
No complications	39 (78%)
Premature baby	4 (8%)
Still birth	3 (6%)
Intrauterine growth retardation	2 (4%)
Respiratory distress syndrome	1 (2%)
Hypothermia	1 (2%)

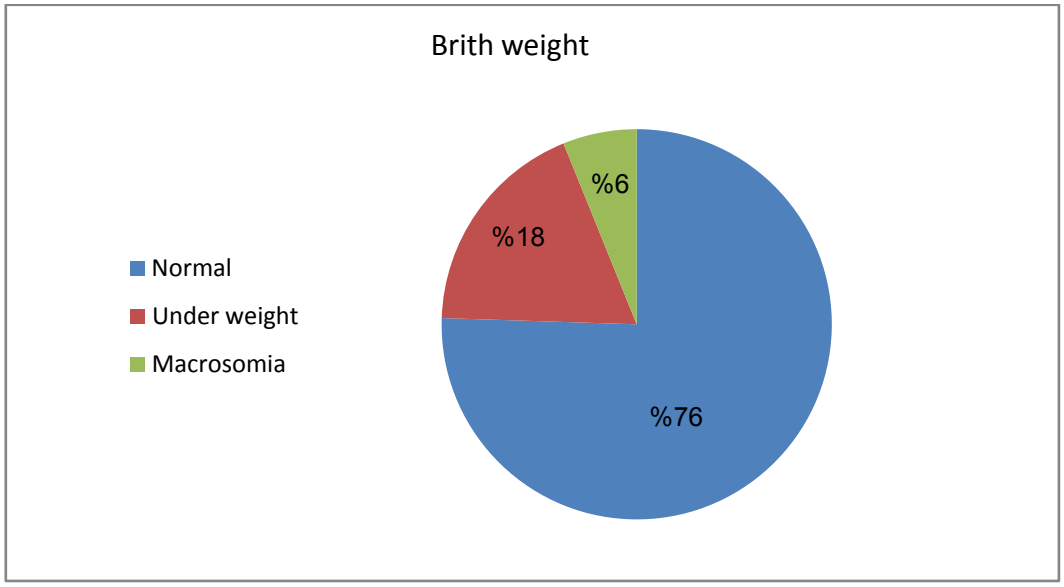

Figure (1). Distribution of birth weight

Discussion:

The purpose of the current study was to identify the pregnancy outcome in women with chronic hypertension. The prevalence of chronic hypertensive pregnant women in 2017 year was 2.5%. Generally speaking, the prevalence of hypertensive disorders of pregnancy varies with different geographic regions of the world; it was reported to be as low as 1.5% in Sweden to a record value of 7.5% in Brazil. A figure of between 2.6% and 3.7% was also reported for Saudi Arabia compared with this study. [11]the Prevalence of 5.3%, 3.3% and 6.5% was reported for Ethiopia, Iran and South-Western Bosnia and Herzogovina respectively. [12-14]In this study the age of the hypertensive patients ranged between 19 and 44 years with a median of 33.5 and a mean of 33.1±6.9 years. Similar study was reported the mean age of the hypertensive patients was 34 years.[15].The study revealed the prevalence of chronic hypertensive women is ;affecting more the women in the age 31-40 years were46%.But The other study showed that the highest percentage of the patients with chronic hypertension were between 30 and 40 years which was in agreement with the current study result. [75], and low in the other study reported 19.5% after 35 years old in [16]Regards the obstetric history, the study result revealed that most of the hypertensive patients were multigravidas and multiparous. About half of the patientshad no history of abortion. Similar result was reported in the previous study in which28%the most the patients were multigravidas and multiparous . [15] While the Other studies showed that opposite result about half of the hypertensive patients were primigravidas and nulliparous[18,19], this different may related to different of social back ground and education level about parity . The mean gestational age of the hypertensive patients was 37weeks with only 28% preterm pregnancy. This result was in agreement with the study in which the mean gestational age of hypertensive patients was 36.8 weeks. [18] On contrary the study reported that most of the hypertensive patients had preterm delivery. [19] the explanation of delivery term baby in our study indicated that the patients have regular follow up and good antenatal care in their pregnancy, and in other study may related to lack of antenatal care or irregular follow up. In respect to maternal complications , the study showed that the majority of patients(76%) have no complication during pregnancy , and other complication with different small percentage . this explanation our patients

is educated about their condition, have regular follow up in their clinic to control blood pressure , and receiving good advice from their doctors, to avoid complication , and lose her pregnancy. While the others [16-19]reported most series complication such as; pulmonary oedema, abruptio placentae, HELLP syndrome, maternal death ،acute renal failure, coma with cerebral pathology, this may related to irregular follow up to control their blood pressure. We found in this study high rate 50% of normal vaginal delivery than caserne section delivery was 48%(34%emergency cesarean section, and 14% elective cesarean section.)this explained before the our pregnant women have less maternal complication, and cesarean section delivery related to avoid some series complication in the mother and neonate. The same study[16] reported same result that normal vaginal delivery 50% common way of delivery followed by elective cesarean section then emergency cesarean section. The Cesarean section rates are increasing worldwide, as in the others studies[17-19] revealed the prevalence cesarean section delivery were high 51.9%, 70 % , to prevent maternal complications, or which is one of the treatment or prevention procedure of preeclampsia and eclampsia that could associated with hypertensive patients. The study illustrated majority of hypertensive women have normal birth weight , and no neonatal complication during delivery were 74%, 78%, respectively. And other neonatal complications such as birth weight, stillbirth, IUGR, prematurity،RDS, and hypothermia. Reported with small percentage. Previous Studies shows that many neonatal complications associated with hypertension such as low APGAR ,intra uterine growth retardation , low birth weight, higher neonatal intensive care unit admissions،stillbirth, respaitory distress syndrome , and neonatal death. [16-19]

Conclusion and Recommendations:

Pregnant women with chronic hypertension in young age group with low maternal complication, normal vaginal delivery common than cesarean section, delivery term baby with normal brith weight, and low neonatal complication. However, this does not prevent the increased attention and focus more on these patients during pregnancy to avoid those complications that happen to the mother and the fetus, by A specialized antenatal care is important to provide better maternal and perinatal outcomes, through close follow-up and early diagnosis of complications. as well as making further study that includes a large number of patients to see the picture is more clear.

Study limitation;

Our study has some limitations: some data deficit from the files of patients such as duration of hypertension , treatment before and after pregnancy, previous history of preeclampsia or eclampsia, history of fetal complication.

Authors Contributions

the original idea for the present study; Dr.Naamat Mahmoud Abid, performed data collection ,Dr.Mabruka Salem Alghozwi, data analysis, Dr.Rania A gammo ,under supervision of ,Dr. Naamat Mahmoud Abid, wrote the first draft, Dr. Nuriya B. Enessr ,review of the study , Dr, Fuad Ali Zekri. Whichwas approved by all of the authors.

.**Conflict of Interests**

The authors have no conflict of interests to declare.

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