



Management of Twin Delivery in N'Djamena Mother and Child University Hospital

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Abstract

Background: Twin pregnancy is defined as the simultaneous development of two embryos in the uterus. Twin births represent a high-risk situation not only for the mother but also for the fetuses.

Objective: To study the determinants of twin birth.

Patients and method : This was a prospective, descriptive study covering a period of 6 months, from January 1st, 2022 to June 30th, 2022, on twin deliveries in the delivery room of N'Djamena Mother and Child University Hospital. We included in this study all consent parturient with a twin pregnancy (term \geq 28 gestational week). Studied variables were epidemiological, clinical and therapeutic. We used SPSS 18.0 software to analyze the data.

Results: We recorded 77 twin deliveries among 2268 deliveries, giving a frequency of 3.4%. Parturient referred in 66.2% of cases. The majority of patients had attended a prenatal care (84.4%). Twin pregnancy was diagnosed before labor in 55.8% of cases. Patients whose term of pregnancy was between 37-42 SA accounted for 67.5%. Delivery was by the vaginal route in 55.8% of cases, and breech delivery on the first fetus was the indication for caesarean section in 9.1%. Perinatal asphyxia was noted in 13.6%. On the maternal side, we reported 1 maternal death and an episiotomy rate of 11.7%.

Conclusion: Twin pregnancies are common in our department. Twin pregnancies are diagnosed clinically. Early diagnosis and efficient, rigorous management will improve the maternal and fetal prognosis of this high-risk pregnancy.

Keywords: Twin birth; Prognosis; CHUME; Chad

Introduction

Twin pregnancy is defined as the simultaneous development of two embryos in the uterus [1]. Twin pregnancies have become a major issue in obstetrics, as their number is on the rise due to an increase of maternal age and the use of medically assisted reproduction (MAP) [2]. The frequency of twin births varies

considerably from one continent to another and from one country to another [3]. Twin births represent a high-risk situation not only for the mother but also for the fetuses [4]. At each stage of labor, specific difficulties to twin pregnancies may arise dynamic or mechanical dystocia, mechanical complications during delivery,

and hemorrhage during the third stage of the labor [5]. The second twin remains exposed to additional risks, particularly when the delivery is vaginally, depending on several parameters: a delay of fifteen minutes or more between the twins, late recourse to caesarean section, unqualified birth attendant, monochorionic pregnancy, low birth weight [6].

Twin deliveries, whatever the mode of delivery, require the presence of a complete team and sufficient technical resources: obstetrician, midwives, anesthetist, pediatricians, as well as sufficient resources adapted to the situation (number of fetuses, prematurity, intra-uterine growth retardation) with the possibility of transferring the children to neonatology in the event of premature delivery [3,7].

In Chad, no study has addressed this issue in the N'Djamena Mother and Child University Hospital (NMCUH). That is why we initiated this study with the aim of studying the determinants of twin births in NMCUH.

Patients and Method

This was a prospective, descriptive study covering a period of 6 months, from January 1st, 2022 to June 30th, 2022, on twin deliveries in the delivery room of N'Djamena Mother and Child University Hospital. All consent parturient admitted for delivery with twin pregnancy was included. Studied variables were epidemiological, clinical and therapeutic.

Data were collected using a pre-established form filled for each patient. We used World and SPSS 18.0 software to analyze the data.

Results

We recorded 77 twin deliveries among 2268 deliveries giving a frequency of 3.4%.

Age

The mean age of patients was 29.8 ± 1.8 years, with extremes of 16 and 43 years.

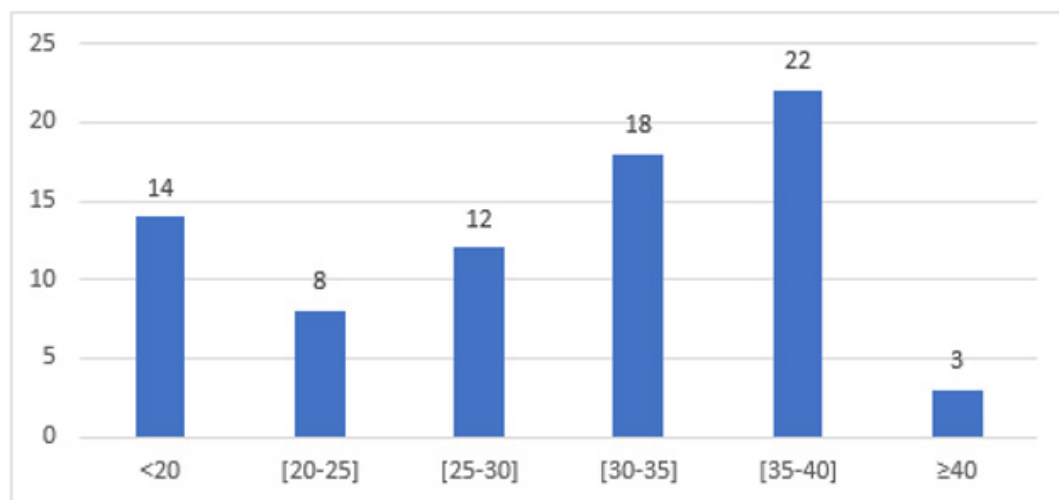


Figure 1: Age group.

The 35-40 age group was the most represented, with 28.6% (n=22) (Figure 1).

Mode of admission

parturient were admitted themselves in 33.8% (n=26) and 66.2% (n=51) were referred.

Antenatal cares (ANC)

The majority of patients had had an antenatal consultation (n=65 or 84.4%).

The average number of ANC carried out was 4.1 with extremes of 0 and 8. 34.

Patients had carried out at least four ANC represented 44.1% (Table 1).

Moment of diagnosis and type of twin pregnancy

In 55.8% of twin pregnancies were diagnosed by ultrasound, compared with 44.2% by clinical.

Twin pregnancy was diagnosed before labor in 43 cases (55.8%).

Twin bi chorial bi amniotic pregnancies were the most represented with 54 cases (70%) followed by pregnancies mono chorial mono amniotic (n=2) and mono chorial bi amniotic (n=21).

Parity

Average parity was 6.1 with extremes of 1 and 13. Thirty-five (35) parturient were multiparous, followed by pauci parous and primiparous with 30 and 12 respectively (Tables 2&3).

Table 1: Admission reason.

Admission reason	n	%
Scared uterus	5	6.5
First fetus in breech presentation	7	9
Early rupture of membrane	10	13
Programmed caesarean section	4	5.2
Fetal asphyxia	2	2.6
Excessive uterus height	20	26

Table 2: Term of pregnancy.

Pregnancy term (gestational weeks)	n	%
28-36 SA + 6 days	25	32.5
37-42 SA	52	67.5
>42 SA	0.0	0.0
Total	77	100

Table 3: Type of presentation of the twins.

Presentation		n	%
Cephalic	T1	55	38,2
	T2	37	25.7
Creech	T2	21	14,6
		33	22.9
Transversal	T1	1	0.7
	T2	2	1.4
Total		144	100

The presentation was cephalic in 38.2% for fetus1 (n=55) and 25.7% for second fetus (n=37).

Mode of delivery

Delivery was by vaginal in 55.8% (n=43) and by caesarean section in 44.2% (n=34) (Table 4).

Weight of twins

The weight of the newborns was less than 2500g in 87 (56.5%) (n=41 for first fetus and n=46 for second fetus) (Table 5).

Table 4: Indications for caesarean section.

Cesarean section indication	n	%
First fetus in breech presentation	7	9.1
Fetal asphyxia	5	6.5
Shoulder presentation	3	4
Scared uterus	2	2.6
pre rupture Syndrome	1	1.2
Eclampsia	4	5.2
Early rupture of membrane	3	4
Stagnation of dilatation	1	1.2
Retained second fetus	4	5.2
Aged primipara	4	5.2

First fetus in breech presentation was the common indication for caesarean section at 9.1%.

Table 5: Fetal complication.

Fetal complication	n	%
Intra uterine fetal death	13	8.4
Newborn death (7 for T1 and 10 for T2)	17	11
Trauma	1	0.6
Perinatal asphyxia	21	13.6

Perinatal asphyxia was noted in 13.6%.

Maternal morbidity

Episiotomy was performed in 11.7% of cases (Table 6).

Table 6: Maternal morbidity.

Maternal morbidity	n	%
Third stage hemorrhage	7	9.1
Episiotomy	9	11.7
Maternal death	1	1.3

Episiotomy was performed in 11.7% of cases.

Discussion

The frequency of twin pregnancies varies in the literature. Our frequency of 3.4% is comparable to what reported by Obossou, et al. [8] in the Kandi Zone Hospital in Benin and close to the 3.7% noted by Buambo-Bamanga, et al. [9], in the Brazzaville University Hospital. Our high frequency essentially reflects a high level of evacuation linked to our status as a national reference maternity hospital. However, our frequency remains high compared with certain data in the literature: 1.76% for Zedini, et al. [7] in Tunisia, 1.3% for Buanga [10] in Dakar and; 1.6% for Mabilia-Babela, et al. [11], 2.3% for Andrianampy, et al. [12]. However, it is lower than those found by Nayama, et al. [13] at the Issaka Gazobi maternity hospital in Niamey, Lokoussou, et al. [14] in Cotounou and by Kouamé [15] at the CHU of Cocody with respectively 4.5%, 4.80% and 4.49%.

The average age of parturients was 29.8 years. Buambo-Bamanga in Brazzaville found an identical average age of 29.8 years at Brazzaville University Hospital [9]. This average age is close to those reported by Zedini, et al. [7] and Oboussou, et al. [8], which were 30.7+/-5.2 and 28.5+/- 5.26 years respectively. The highest frequency of twin births in our study was observed between the ages of 35 and 40 (28.6%) and the lowest between the ages of 40 and 43 (3.9%).

The increase in the rate of twinning with a woman's age is explained by the action of follicle stimulating hormone (FSH), whose concentration in the blood increases with age. When the average FSH level rises, the probability of double ovulation and double fertilization during the cycle increases. This drop could be explained by poor ovarian function from the age of 40 onwards, which results in a drop-in gonadotropin level.

Patients were referred in 66.2%. For Kouamé [15], 69.9% of

patients were evacuated or referred. This high referral rate can be explained by the fact that twin births are high-risk deliveries that must be managed in a specialized setting. The main reason for evacuation was twin birth in 37.7% of cases. For Kouamé [15], the main reason for evacuation was twin births in 30.6%. This situation constituted a high risk in our African context. In our African context, it represents a high risk, hence the reason for evacuation for delivery in an obstetric-surgical environment.

The average parity was 6.1 with extremes of 1 and 13. In our study, multiparous females were the most frequent (45.7%) followed by grand multiparous with 39.5%. These rates are lower than those of Buanga [10] who found that multiparous women were the most frequent with 54% followed by primiparous women 34% and large multiparous women 11%.

Tiounkani, et al. [6] reported 55.61% of multiparous women, followed by pauciparous women (24.23%) and primiparous women (20.16%). These different results allow us to state that the risk of twin pregnancy increases with the parity of the woman, irrespective of her age, and that the rate of twin pregnancy increases with parity, as attested by most authors [4,16,17].

In this study, 55.8% of twin pregnancies were diagnosed before the onset of labor. According to Moréira, et al. [18] in Senegal, 52.3% of twin pregnancies were diagnosed before the onset of labor. Kouamé [15], noted in his study that, twin pregnancies were diagnosed during pregnancy in 30.6%. For Buanga-Bamanga, et al. [9],

the term and diagnosis of twin pregnancies were accurate in 66.2% of cases. These rates could be explained by the fact that in these health facilities consultations are provided by midwives and obstetric ultrasound scans are not systematically performed as part of antenatal care [15]. In this study, 55.8% of twin pregnancies

were diagnosed by ultrasound, compared with 44.2% by clinical examination. Moréira , et al. [18] found that 47.4% of twin pregnancies were diagnosed by ultrasound. Obossou , et al. [9] found that 46% of twin pregnancies were diagnosed by ultrasound. According to Buanga [10], 28% of twin pregnancies were diagnosed by ultrasound. Socio-cultural problems combined with a lack of equipment limit pregnant women's access to this paraclinical examination.

In 32.5% newborns were premature. This rate was higher than those found by Attah, et al. [19] and Boubkraoui , et al. [1] that reported respectively 22.3% and 27.7% therefore it is and lower than the 42% found by Mekki , et al. [5]. Some authors have found even higher rates. Gérardin , et al. [20] and Rizwan and al [21] reported respectively a prematurity rates in twin pregnancies of 62% and 84.36%. The shorter duration of pregnancy could be explained by the uterine distension associated with multiple pregnancies in one hand, and in the second hand by the increasing impact on the maternal body, reflected by the increases of gestational hypertension and gestational diabetes [21].

The fetal presentation was cephalic in 38.2% for the first fetus(n=55) and 25.7% for the second fetus. Ours rates are lower to those of Zedini , et al. [7] who found 71% and 48.60% for cephalic presentation respectively for first fetus and second fetus. These results may be explained by dystocic presentations, which are frequent in twin births.

The rate of vaginal delivery was 55.8% in this study. Ours findings are higher than the rate found by Bhavana , et al. [22] and Mottet , et al. [23] that noted respectively 46/7% and 54.7%, The caesarean section rate was 44.2%), this is lower than that reported by Bhavana, et al. [22] and Kouamé [15] representing respectively 53.3% and 63.6%. These different findings may be explained by the fact that there is no consensus on the mode of delivery of twin births. The high caesarean section rate in our study could also be explained by dystocic presentations and maternal risk factors such as eclampsia and scarred uterus.

The incidence of perinatal asphyxia in this series was 13.6%. This rate is higher than the 0.8% noted by Boubkraoui [1]. This difference could be explained by the late admission of parturient in the NMCUH.

We recorded 17 newborn deaths (representing 11.0%, 7 death for the first fetus and 10 for the second fetus). Nayama [13] and Buanbo-Bamanga [9] report higher proportions, respectively 21.8% and 21.4% of perinatal mortality.

Conclusion

Twin pregnancies are frequent in our department. Twin pregnancies are diagnosed clinically. Twin birth is a significant risk factor for stillbirth and high morbidity, especially for the second twin. The maternal prognosis is satisfactory, but complications such as immediate post-partum haemorrhage and maternal death can occur. Early diagnosis and efficient, rigorous management are the key to improving the maternal and foetal prognosis of this high-risk pregnancy.

Acknowledgement

None.

Conflict of Interest

Authors declare no conflict of interest.

References

- Boubkraoui M, Aguenau H, Mrabet M, Barkat A (2016) Perinatal morbimortality in twin' pregnancies in a Moroccan level 3 maternity hospital. *Pan Afr Med J* 23(80): 1-11.
- Prunet C, Goffinet F, Blondel B (2015) Perinatal care and health in twin pregnancies: situation in 2010 and recent developments in France. *J Gynecol Obstet Biol Reprod* 44(2): 184-193.
- Delome P, Schmitz T, Goffinet F (2018) Mode of delivery for twin pregnancy. *La lettre du gynécologue* 36(417): 30-48.
- Mekki D, Mourali M, Mekaouer L, Hemila F, El Fekih C (2016) What factors influence the prognosis of the second twin in twin pregnancy delivery? *Tunisie Med* 94(5): 349-355.
- El Hassani M, Drissi J, Benali S, Baba HA, Kouach J, et al. (2020) Delayed delivery of a multiple pregnancy: about a case and review of the literature. *Pan Afr Med J* 36(373): 1-5.
- Théra T, Mounkoro N, Omar Traore S, Hamidou A, Traore M, et al. (2018) Twin delivery in the African setting: a ten-year analysis in the district of Bamako, Mali. *Pan Afr Med J* 29(21): 1-7.
- Zedini C, Bannour R, Bannour I, Bannour B, Jlassi M, et al. (2020) Delivery of twin pregnancies and maternal-fetal prognosis in a level 3 Tunisian University Centre: a retrospective study of 399 cases. *Pan Afr Med J* 36(237): 1-11.
- Obossou AAA, Hounkponou AF, Sidi IR, Salifou K, Hounkpatin B, et al. (2014) Prognosis of twin birth at Kandi Zone Hospital in Benin. *Annales de l'Université de Parakou, Série ' Sciences de la santé '4(1): 1-9.*
- Buambo-Bamanga SF, Makoumbou P, Oyere-Moke P, Gnekoumou AL, Nkihouabonga G, et al. (2006) Pregnancy and twin birth: what problems at Brazzaville University Hospital? *Médecine d'Afrique Noire* 5307: 425-430.
- Buanga KJ (2000) Difficulties in the management of twin pregnancies and deliveries in Africa. *Médecine d'Afrique noire* 47(8/9) :362-65.
- Mabiala-Babela JR, Ntsila KR, Malonga DA, Boutete FR, Mafina-Mienandi MC, et al. (2007) Multiple births in Brazzaville. À propos de 410 cas. *Médecine d'Afrique Noire* 5411: 555-560.
- Andrianampy H, Botolahy ZA, Hery Rakotovo A, Rakotonirina ECJ, Randriambololona DMA (2009) Twin deliveries at the Befelatanana maternity hospital (Antananarivo Madagascar): neonatal prognosis. *Revue tropicale de chirurgie* 3(2): 56-58.
- Nayama M, Oumara A, Tahirou A, Idi N, Garba M, et al. (2008) Management of twin pregnancies at the Issaka Gazobi maternity hospital in Niamey Niger. Prospective study of 131 cases over 1 year. *Médecine d'Afrique Noire* 5509: 478-484.
- Lokossou A, Denakpo J, Komongui DG, Agueh C, Perrin RX (2007) Outcome of twin pregnancies in a national reference maternity unit in southern Benin. *Journal de la SAGO* 8: 1-5.
- Kouamé AD (2012) Neonatal prognosis in the delivery of the 2nd twin at the Centre Hospitalier et Universitaire de Cocody. *SARAF* 16(3): 1-5.
- Pison G (2006) l'évolution de la fréquence des naissances gémellaires. *Revue du Praticien* 56(20): 2222-2226.
- Brunet G, Bideau A, Foroni F (2004) Les naissances gémellaires du XXVII^e siècle à nos jours. Approche familiale dans les campagnes de la région lyonnaise. *Annales de démographie historique* 2(108): 39-52.

18. Moréira P, Lankoande N, Cissé ML, Diouf A, Mbaye M, et al. (2007) Pregnancy and twin birth in the maternity ward of the Roi Baudoin Health Centre in Dakar: epidemiological and prognostic aspects. *J SAGO* 8(1): 6-11.
19. Attah RA, Mohammed Z, Gobir M (2014) A review of twin deliveries in Aminu Kano Teaching Hospital, North West Nigeria. *NJBCS* 11(1): 3-5.
20. Gérardin P, Boumahni B, Choker G, Carbonnier M, Gabrièle M, et al. (2006) Twin pregnancies in the south of Reunion Island. A 3-year cross-sectional study of risk factors and complications. *J Gynecol Obstet Biol Reprod* 35 (1): 804-12.
21. Rizwan N, Abbasi RM, Mughal R (2010) Maternal morbidity and perinatal outcome with twin pregnancy. *J Ayub Med Coll Abbottabad* 22(2): 105-107.
22. Bhavana S, Shivanna S, Gopal N (2004) A study on fetomaternal outcome in twin gestation in a tertiary rural health centre. *IJARMS* 01(1) :15-17.
23. Mottet M, Guillaume E, Martin A, Ramanah R, Riethmuller D (2014) Discordance of birth weights in bichorionic twins: diagnosis, obstetrical and neonatal prognosis. *Gynecol Obstet Fertil* 42(9): 572-578.