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Abdominal pregnancy at the university teaching hospital Sylvanus Olympio of Lome: Epidemiological, therapeutic and prognostic aspects from 2016 to 2018

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Abstract
Purpose: Abdominal pregnancy, a variety of ectopic pregnancy which, is rare and difficult to diagnose. Its symptomatology is polymorphous and the treatment is surgical.
Objective: To study the epidemiological, diagnostic, therapeutic and prognostic aspects of this pathology.
Methods: It has been a prospective study of seventeen cases of abdominal pregnancy operated by laparotomy from January 2015 to December 2017 in the department of Gynecology and Obstetrics at CHU Sylvanus Olympio in Lomé.
The data were directly collected using structured questionnaire.
Results: The frequency of abdominal pregnancy at the CHU-SO in Lomé is high. It's estimated at 1 over 1556 deliveries, namely 3.99% of whole ectopic pregnancies. The Symptomatology was dominated by abdominal and pelvic pain (94.11%). In the majority of cases (10/17), the diagnosis was done after the first trimester of the pregnancy. The confirmation of the diagnosis was made in 52.95% of cases with ultrasound. All the patients survived after operation. The fetal prognosis was bad (2/17 children survived). In 88.24% of cases, the placenta was completely removed.
Conclusion: The abdominal pregnancy is a disease of people living in areas with low health coverage and those who have low socio-economic level. It brings out a diagnosis and therapeutic matter. Ultrasound helps to confirm diagnosis. Although the perinatal prognosis is still bad, the maternal one is relatively good.

Keywords: abdominal pregnancy-epidemiology-diagnosis-treatment-prognosis

1. Introduction
Abdominal pregnancy (GA), one of the varieties of ectopic pregnancy, is defined as the development of the egg in the abdominal cavity primary or mostly secondary [1, 2]. The evolutionary forms beyond the 5th month are exceptional in developed countries, but frequent in those with low medical density [3, 4]. Many cases of abdominal pregnancy have been reported in the literature. Lorrier and al. [3] in France, in 1969, reported a case of GA near the term with live child; Diouf and al. in Senegal [4] reported 02 cases of abdominal pregnancy with live children in 1996; Beecahm and al. [5] in New Orleans in 1962 reported 65 cases (1/3371 deliveries); Picaud [6] reported 11 cases (1/3750 deliveries) in Gabon in 1990; Kangulu [7] reported a very prolonged GA case in the Democratic Republic of Congo in 2012. In Togo, Akpadza and al. [8] published a case of simultaneous full-term abdominal pregnancy and intrauterine pregnancy with live children, registered at the maternity ward of the Sokode Regional Hospital Center in 1996. Adjahoto and al. [9] reported their experience with 11 cases of abdominal pregnancy operated between 1994 and 1999 in the Department of Gynecology and Obstetrics at the Tokoin Lome University Hospital Center. More recently, Egloh-Tohouede and al. [10] reported 23 cases of abdominal pregnancy treated between 1990 and 2001 in the Department of Gynecology and Obstetrics at the Tokoin Lome University Hospital Center. On the evolutionary level, there are: early abdominal pregnancy whose age does not exceed 20 weeks of amenorrhea (SA) and late abdominal pregnancy evolving beyond 20 SA [11]. The treatment is surgical, the fetal prognosis is often reserved. Abdominal pregnancy is increasingly encountered in our practice. There has been no new study on GA in the Gynecology and Obstetrics Department of the University Hospital Sylvanus Olympio (CHU-SO) in Lome for the last 17 years.

It is therefore essential to redo the point on the subject. Thus, we conducted a prospective study from January 2015 to December 2017 (3 years), in the gynecology and obstetrics department of CHU-SO to study the epidemiological, therapeutic and prognostic aspects of this rare condition. What is abdominal pregnancy.

2. Study framework

Our framework was the maternity of CHU Sylvanus Olympio of Lome. It has a Level III maternity facility, making it a national referral center. This was a prospective descriptive study carried out at the CHU-SO maternity hospital of Lome. It took place over a period of 3 years, from 1st January 2015 to 31st December 2017 (3 years). In our study were included all patients in whom the diagnosis of abdominal pregnancy was retained intraoperatively. We created an individual survey card with the following parameters: age of patient, source, occupation, reason for admission and history and management Information was collected directly from a pre-established survey form. About late suites, we reviewed the patients at least once after more than 6 months or had the information by telephone (patients residing outside the maritime region). The information was recorded each time on the survey card and in the medical file of the patients. We processed the data through the statistical software Epi info version 7.2.0. Designed the tables and figures through Excel and Word.

3. Results

3.1 Epidemiological aspects

3.1.1 Frequency

From January 2015 to December 2017, a period of 3 years, 17 cases of abdominal pregnancy were performed in the service, 26451 deliveries performed and 426 ectopic pregnancies (GEU) recorded. The annual frequency of abdominal pregnancy is estimated at 5.67 per year. The frequency reported at delivery was estimated at 1abdominal pregnancy for 1556 deliveries and represented 3.99% of ectopic pregnancy.

3.1.2 The age

In our series, the maternal age was between 23 and 40 years old with an average of 30.12 year

3.1.3 Professions of patients

In over 94 percent of cases patients were working in the informal sector

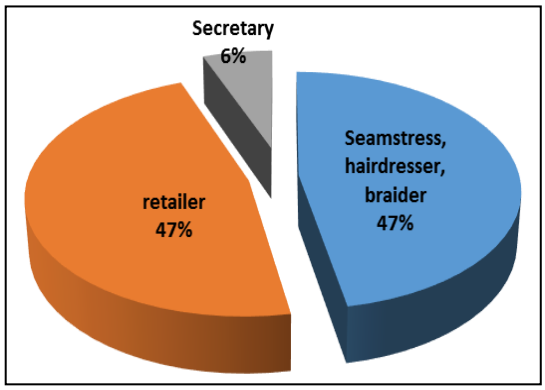

Fig 1: Occupational distribution of patients

3.1.4 Antecedents

Gravidity

The average pregnancy in our series was 2.94 with extremes ranging from 1 to 7.

Parity

In our series, the average parity was 1.41. 14 patients out of 17 had a parity lower than or equal to 2, ie 82.35%.

Risk factors

Some risk factors were noted: Some patients had more than one risk factor. Only 8 out of 17 patients (47.06%) had no risk factors. antecedents of abortion (1case), miscarriage (2 cases) ectopic pregnancy (2cases) recent contraception (1case) caesarean (1case)

3.3 Placentary insertion

Placental insertions were diverse. In our series, some placenta were inserted diffusely on several organs. The 6 cases of placenta inserted only on the uterus had nested on the uterine fundus (Table 1).

Table I: Placental localization

Location	Number	Percentage (%)
Uterus	6	35,29
Annex	3	17,66
Epiploon and Appendix	2	11,77
Epiploon and uterus	1	5,88
Epiploon and handle	1	5,88
Epiploon, uterus and handle	1	5,88
Epiploon, uterus and appendix	1	5,88
Uterus, appendix and rectum	1	5,88
Anse, uterus and appendix	1	5,88
Total	17	100

3.4 The Treatment

The treatment was surgical in all cases and was summarized at a laparotomy. The intervention was performed urgently in 11 patients who had a recurrent hemoperitoneum. In 5 patients, the delay between entry and intervention varied between 24 hours and 9 days. Particularly in one patient, the delay was 32 days between her entry and the intervention, which is explained by the diagnostic difficulties in the latter which was finally operated at 9 days after the suspicion of fetus outside the uterus. The following gestures have been made:

- Extraction of the design product in all cases,
- Complete removal of the placenta in 15 out of 17 cases (88.24%), an adnexectomy was performed in 4 cases and a total salpingectomy in 2 cases.

3.5 The prognosis

3.5.1 The prognosis of the fetus and the newborn

Before the intervention, out of the 17 pregnancies, we noted:

- 2 pregnancies stopped in the third trimester
- 4 pregnancies whose vitality of the egg was unknown (2 cases of mass latero-uterine with egg not seen and 2 cases without ultrasound)
- 2 embryos and 8 live fetuses, 2 of which had evolved beyond 28 weeks.
- In the intervention, of the 4 pregnancies that reached the end of viability, 2 fetuses survived, the other 13 who did not reach the viability term, were lost to extraction. In summary, 2 (11.76%) pregnancies had a favorable outcome with newborn living at discharge from hospital compared to 15 (88.24%).

3.5.2 Operative suites

All our patients survived thanks to adequate resuscitation measures. 15 patients had received a blood transfusion; 02 had presented an infectious syndrome postoperatively with favorable evolution under treatment. (Table II and III)

Table II: Distribution according to immediate and early maternal operative follow-up

Postoperative	Number	Percentage (%)
Simple	15	88,24
Infectious Syndrome	2	11,76
Total	17	100

Table III: Distribution by late maternal postoperative course

Postoperative	Number	Percentage (%)
Simple (with out particularity)	12	70,60
Intrauterine pregnancy	2	11,76
Bilateral tubal obstruction (HSG)	1	5,88
Eventration	1	5,88
Keloid of the scar	1	5,88
Total	17	100

3.5.3 Hospital discharge

In our series, the average duration of hospitalization after the operation was 6 days with a minimum duration of 2 days and a maximum of 15 days.

Table IV: Distribution by length of hospital stay postoperatively

Duration (days)	Number	Percentage (%)
1 à 3	4	23,53
4 à 7	8	47,06
7 à 15	5	29,41
Total	17	100

4. Discussion

4.1 The limits of the study

Our survey is a prospective study, performed in the Gynecology and Obstetrics Department of Sylvanus Olympio University Hospital in Lome. The follow-up of the patients following late surgery has caused us some problems as they do not all live in Lome or have changed housing (other regions of Togo). So we contacted them by phone.

4.2. Frequency

In our study, the frequency is 1 abdominal pregnancy for 1556 deliveries. Our result is intermediate between that of Forster [12] and Tanoh [13] who found respectively 1/1136 and 1/1666 deliveries. Egloh-Tohouede and al in Togo [10] found 1/2943; Diouf and al. in Senegal [4] found 1/2583 childbirth; Picaud [6] and Engongah-Beka [14] in Gabon found 1/3750 and 1/5997 deliveries. However, a much lower frequency of 1/21439 was found by Sfar [2] in Tunisia. The frequency of abdominal pregnancy is therefore variable according to the authors. It is exceptional in the industrialized countries: in Europe and the USA, the incidence varies between 1 abdominal pregnancy for 7000 to 15000 deliveries [2], on the other hand, it is more frequent in countries with low medical density [4, 6, 15, 16, 13, 17]. The incidence of abdominal pregnancy is better appreciated in relation to all ectopic pregnancies. In our series the GA represents 3.99% of the GEU. This result is similar to that of Diouf and al [4] in Senegal who found 4.87% of the USG in 1996. Egloh-Tohouede and al. [10] found 1.75% of the USG in 2003 in Togo; White [18] found 1.6% in 1989 in Zimbabwe, Picaud and al in Gabon [6] found 1.5% in 1989; Bouzid [19] in Tunisia in 1996 estimated it at 1%. The slight difference with the result of Egloh-Tohouede in 2003 could be explained by the fact that our study was prospective; we did not have an unusable file. Two factors depending on the socio-economic level of the study population seem to have a profound influence on the occurrence of UGGs and thus GAs: high incidence of genital infection and under-medicalization Racial prevalence has been reported in some publications [2, 19, 20, 21, 13], which places the incidence of abdominal pregnancy in the black race up to 10 to 25 times higher than that of the white race. This result only confirms the high incidence of genital infection in this black population concentrated in countries with low medical and socio-economic levels.

4.3 Age

In our series, the maternal age was between 23 and 40 years old with an average of 30.12 years. Our result is similar to those of Egloh-Tohouede and al. [10] in Togo in 2003 and Iloki [22] in Congo Brazzaville in 1999 who found respectively 29.56 years and 28.8 years.

4.4 The antecedents

Many factors intervene in the occurrence of abdominal pregnancy (GA). Gesture and Parity: The average pregnancy in our series was 2.94. This result is close to that of Egloh-Tohouede and al. who found an average of 3.5 in 2003 [10]. 82.35% of our patients had a parity less than or equal to 2. Our result is comparable to that of Egloh-Tohouede and al. [10] who found 73.91% in 2003 in Togo. According to Bouzid and al in Tunisia [19], abdominal pregnancy seems to be more common in multiparous women. Although the parity of patients varies from 1 to 9, according to some authors, abdominal pregnancy would be more common in the 1st and 2nd pregnancies [10] which is comparable to our result. In fact, the small numbers of series make these results debatable.

The history of abortion, ectopic pregnancy, recent contraception and caesarean section found in our study have been reported in the literature [6, 23, 18]. 11.76% of the patients in our series had a history of tubal pregnancy. Our result is comparable to that Picaud in Gabon which found 10%. Egloh-Tohouede and al [10] found an antecedent of ectopic pregnancy (GEU) in 4.35% of cases; Engongah-Beka in Gabon found 2 cases out of 6 patients (33.33%).

In our series, high genital infection was the most common risk factor, with 5 patients out of 17 (29.41%). This result is consistent with most studies [2, 22, 23] which noted the history of tubal infectious pathology as the first risk factor. Egloh-Tohouede and al. had not found any notion of genital infection in their series. This discrepancy could be explained by the fact that our study is prospective, which allowed us to easily collect this information. 47.06% of the cases in our series had no risk factors. Garret [23] in the USA in 1996 found the same result (47%). Egloh-Tohouede and al. found a high rate of 78.26% in Togo. This difference could be explained by the ease of gathering information on the history of patients in our study that was prospective. We had difficulties especially in the long-term follow-up of the patients. The remote geographical location of some patients (outside Lomé) made it difficult for them to go to the Sylvanus Olympio teaching hospital of Lome (CHU-SO) for the controls. The change of phone number has made contact with some patients difficult.

4.5 Localization of the placenta

Placental insertion is diverse and varied. It can fit on one or

more organs at a time. In our study, placental insertion is done on the uterus in 35.29% of cases and on the appendix in 17.66% of cases. Our results are consistent with those of Egloh-Tohouede and al [10] who found 39.13% insertion on the uterus and 21.74% on the appendix. Aitaouyahia [24] also found a predominant insertion on the appendages and the uterus.

4.6 Treatment

In our study, all our patients were operated on by laparotomy. The risk of extracting an immature and hypotrophic child did not elicit the temptation to save a little time for the benefit of the child. Unlike the majority of authors [14, 15, 25, 26] who prefer to operate after 28 weeks of amenorrhea, in Togo, despite the risk related to fetal immaturity, lack of technical platform for neonatal resuscitation and problems breeding of premature infants at Lome UHC, a surgical procedure was always decided even if the fetus was alive. In fact, it is not logical in our daily practice to have limited means to postpone the intervention because it is accepting to take important risks for the mother while the perinatal mortality is high and the fetal prognosis bad. In 88.23% of cases, placental excision was total in our series. The placenta is removed in the vast majority of cases. Egloh-Tohouede [10] in Togo and Iloki [16] in Congo-Brazzaville found total removal of the placenta in 95.65% and 77.77% respectively. Costa in the USA [27] reported a slightly lower rate of 60%. The removal or not of the placenta depends on the organs on which it is inserted. Most authors [16, 26] currently admit that total removal of the placenta should be the goal if it is technically feasible. The placenta left in place in 02 cases, had a favorable spontaneous involution. Picaud *et al*. [6] used methotrexate in one out of every two cases of placenta left in place. This antimitotic therapy recommended by some authors [28], does not seem essential for others [28, 29] who advise against it because of the risk of secondary infection induced by the accumulation of necrotic tissue (and its toxicity) and the favorable spontaneous involution in their series [8, 21, 22, 30].

4.7 The prognosis of the fetus and the newborn

In our series 4 pregnancies out of 17 had reached the viability term and two live newborns survived. This makes a survival rate of 11.76% or 88.24% mortality. This result is consistent with what is described in the literature with intra-abdominal fetal mortality varying between 75 and 90% [31]. Egloh-Tohouede and *al.* [10], Picaud *et al*. [6] found respectively 86.95% and 90.90% of fetal mortality.

In our study, the two surviving newborns had no malformation. This result is contrary to what is reported in the literature with a rate of malformations of newborns oscillating between 20 and 90% [32, 33]. This could be explained by the fact that the two new nes were extracted a little far from the term (30 and 31 SA).

4.8 The maternal prognosis

In our series, all patients survived. Nevertheless, it has been noted a persistent infectious syndrome with parietal suppuration having evolved favorably and an incipient herniation in the late postoperative period, successfully treated in visceral surgery. Engongah-Beka in Libreville [34] also had no maternal deaths in their series. Egloh-Tohouede in Lomé [10] and Picaud in Libreville [6] recorded one death case in their series. The maternal prognosis varies according to the regions. The maternal mortality rate varies from 0 to 18% [35, 36, 37]. It is related to hemorrhage and infection. The absence of death in our series could be explained by the adequate and rapid resuscitation measures that were taken with the presence of anesthetist anesthetist. The latter are increasingly accessible to the CHU-SO in recent years by their increasing number.

5. Conclusion

Abdominal pregnancy is a variety of UGI and remains an obstetric emergency that requires attention to diagnosis and management. The analysis of the 17 cases in our series showed that: the frequency of abdominal pregnancies is high at the Gynecology and Obstetrics Clinic of Lome University Hospital (1 abdominal pregnancy / 1556 deliveries). The symptomatology is polymorphous dominated by abdominal pain and hemoperitoneum. The diagnosis is difficult, but is quickly confirmed by the use of ultrasound, currently available in the gynecology and obstetrics department of CHU-SO Lome. The maternal prognosis is considerably improved by the progress of anesthesia and resuscitation, however, the fetal prognosis remains reserved. Only 11.76% of fetuses survived in our study. The course of action with respect to the placenta depends on the precise inventory of its relations with the abdominopelvic organs. Her removal is often possible and must be done if it is surgically feasible.

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