Open Journal of Obstetrics and Gynecology, 2015, 5, 443-447
Published Online August 2015 in SciRes. http://www.scirp.org/journal/ojog
http://dx.doi.org/10.4236/ojog.2015.58064

Complications of Pregnancy in Patients with Systemic Lupus Erythematosus (Gabon)

Sosthène Mayi-Tsonga[1*], Landry Missounga[2], Josaphat Ibaba[2], Jean Ronald Edoa[2], Jean Baptiste Moussavou Kombila[2]

[1]Obstetrics Department, Libreville's Military Hospital, Libreville, Gabon
[2]Department of Internal Medicine, Libreville's Hospital University, Libreville, Gabon
Email: [*]smayi3@yahoo.fr, sougaz@voila.fr, ibabajose@yahoo.fr, linaresdylan@yahoo.fr, jeanbaptiste57@yahoo.fr

Received 8 June 2015; accepted 28 July 2015; published 31 July 2015

Abstract

Pregnancy and systemic lupus erythematosus in black African women: about 10 cases in Libreville (Gabon). Objectives: Through a study in a population of systemic lupus erythematosus (SLE) pregnant black Gabonese women, we describe the characteristics of these pregnancies to clarify their main complications and to make recommendations to their follow-up in low resource countries. Patients and Methods: This is a longitudinal descriptive study conducted over a period of six years, from 1 January 2008 to October 31, 2013, in Libreville (Gabon). We've included, systemic lupus erythematosus women carrying a pregnancy during the period of the study. Results: Seventy-two SLE women were followed and were eligible. Only 8 patients (11%) were pregnant during the follow up period. These 8 SLE patients allowed us to monitor 10 pregnancies. The average parity was 0.88. Eight pregnancies in ten (80%) had complications and most frequent was preeclampsia. Nine pregnancies (90%) resulted in the birth of viable children of which 4 (44.4%) were born by caesarean section and the 5 others (55.6%) were born by natural route. Conclusion: We recommend a monthly prenatal care for these high-risk pregnancies and early detection of preeclampsia.

Keywords

Systemic Lupus Erythematosus, Pregnancy, Preeclampsia, Gabon

[*]Corresponding author.

How to cite this paper: Mayi-Tsonga, S., Missounga, L., Ibaba, J., Edoa, J.R. and Kombila, J.B.M. (2015) Complications of Pregnancy in Patients with Systemic Lupus Erythematosus (Gabon). *Open Journal of Obstetrics and Gynecology*, **5**, 443-447.
http://dx.doi.org/10.4236/ojog.2015.58064

1. Introduction

The association of systemic lupus erythematosus (SLE) and pregnancy is not well known [1]-[4]. Pregnancy on SLE field can be a high-risk situation due to the strong involvement of estrogen in the pathogenesis of SLE. Currently, a better understanding of SLE enables more efficient management of these pregnant. The cohorts identified in the literature are exclusively Western while this disease is increasingly diagnosed in black African countries [5]. Through a study in a population of SLE pregnant black Gabonese women, we want to describe the characteristics of these pregnancies to clarify their main complications and to make recommendations as to their follow-up in low resource countries.

2. Patients and Methods

This is a longitudinal descriptive study, conducted over a period of six years from 1 January 2008 to 31 October 2013, in departments of infectious diseases at the Libreville University Hospital (LUH) and of obstetrics and gynecology Hospital Army at Libreville (HAL) in Gabon.

Were included, lupus-known women documented by international standards of the American College of Rheumatology (ACR), carry a pregnancy during the period of the study and followed in both services.

SLE women followed at LUH are seen on a quarterly in visit. Their clinical and laboratory findings are recorded in individual medical record tracking. Pregnancy is permitted if the lupus activity index (LAI) is less than 4 for at least 6 months, as recommended by the ACR. Above this index, spontaneous occurrence of pregnancy is almost impossible. Only patients with a LAI < 4 were included in the study. Once pregnant, these women are addressed in the obstetrics and gynecology department of the HAL for monitoring pregnancy and childbirth. At each pre natal visit (PNV), in addition to clinical examination, fetal ultrasound coupled with Doppler (uterine artery, umbilical artery) was performed. A cardiological opinion was requested when the blood pressure rose beyond 140/90 mm Hg. The results of these examinations were registered on the clinical records of pre natal monitoring. The data of parturition and postpartum were recorded on individual field.

For each patient, we collected the following: sociodemographic characteristics, those of lupus, pregnancy monitoring, delivery and data of the newborn.

The capture and analysis of data were made on EPI info 6.04. Given the weakness of our sample, our study is a case series with a distribution randomly. Quantitative data were made in averages and qualitative data were described using numbers and percentages.

3. Results

Seventy-two SLE women were followed in the infectious disease department of LUH and all (100%) were eligible, because with a LAI below 4 for 6 months and being of childbearing age. Only 8 patients (11%) were pregnant during the follow up period. These 8 SLE patients allowed us to monitor 10 pregnancies (2 women were 2 successive pregnancies).

The average age of patients during pregnancy was 28 years (extremes 21 and 44 years). The mean gravidity was 0.47 gesture with extremes of 0 and 8. The average parity was 0.88 (extremes: 0 and 6), and low pares ($n \leq 2$) were the most frequent (87.5%). **Table 1** shows that a history of fetal loss, pre existing on the studied pregnancy was known in 50% of pregnant (n = 4).

The mean duration of SLE symptoms was 7 years (extremes: 1 and 21). Immunological diagnosis has been established in all cases, with concomitant positive antinuclear antibodies: anti DNA specificity (n = 7), anti

Table 1. Personal history of fetal loss.

Term of occurrence (quarter)	Number and type of fetal loss (N)	Patients (N)
First	2 SM* at 10 WA	2
Second	1 SM* at 18 WA	1
Third	2 FDIU** at 32 WA and 36 WA***	1
Total	**5**	**4**

***SM:** Spontaneous miscarriages; ****FDIU:** Fetal death in-utero; *****WA:** week of amenorrhea.

U1RNP (n = 4) and Sm (n = 1). The dosage of phospholipids antibodies has been practiced by only 4 patients (normal in 3 cases and elevated in 1 case). All 8 patients had received oral corticosteroids gradually decline to a maintenance dose of 10 mg/day; associated with hydroxychloroquine. Three women (37.5%) received an additional immunosuppressive therapy.

On average, 8 pregnant benefited 3.7 PNV (extremes: 2 and 5) and ultrasound 3.0 (2 and 6). Ultrasound monitoring allowed diagnosing 1 case (12.5%) of intrauterine growth retardation. There were no cases of fetal malformation, and amniotic fluid volume was always normal (100%). The average number of Doppler examinations was 4.3 (extremes: 4 and 5).

In all cases, the uterine artery Doppler and/or umbilical artery Doppler revealed normal resistance index for the gestational terms. Eight pregnancies in ten (80%) experienced complications and the most frequent was preeclampsia (**Table 2**).

There was 1 case of fetal death in-utero at 23 WA and the 9 other pregnancies (90%) allowed the birth of viable children. The average term of delivery was 33.3 WA (extremes: 32 and 41 WA). There were 3 cases of premature birth with an average term of 35.1 WA (extremes: 32 and 36 WA), and 6 term deliveries (average term: 38.9 WA; extremes: 38 and 41 WA). Four children (4/9 = 33.3%) were born by caesarean section and the other 5 (66.7%) by natural route. The APGAR score at 1 minute averaged 9 (extremes: 9 and 10). The average birth weight was of 2459 g with (extremes: 1430 g and 3860 g). Low fetal birth weight was predominant (n = 5).

4. Discussion

The data of SLE among pregnant black in sub-Saharan countries remain rare while it is known that the prevalence of lupus in African-Americans and Afro-Caribbean migrants to Europe is six times higher than among native Europeans [6] [7].

It seems that SLE does not affect the fertility of women [8]-[10]. This would explain that our fertility rate of 11% seems similar to the global fertility rate in Gabonese women population in childbearing age, that is 14.3% [11].

The age of 28 years in our series can be comparable to that found in the literature [2] [7] [8] [12]. The low gravidity and low parity are usually more common in population of SLE women [7] [8].

Pregnancy exposes SLE women at risk of lupus flare and spontaneous miscarriages (SM), hence the need for planning the pregnancy. Factors that promote these SM are proteinuria > 500 mg/day, a lupus nephritis underlying, antiphospholipid syndrome, thrombocytopenia and pre existing high blood pressure [13] [14]. The rate of SM is from 8% to 36% [7] [13] [14]. All times, in case of occurrence of an unplanned pregnancy, maternal renal function must be carefully monitored [1]. We found a high rate of fetal loss history.

This rate is declining in western series as being spent these past 40 years from 43% to 17% [1] [7] [13]-[15], similar to that of the general population of non lupus women which lies between 10% and 15% [3] [7].

Our average number of PNV seems low and inadequate for monitoring this type of high-risk pregnancies. While the WHO recommends the practice of 4 PNV, but it seems prudent to examine these women at least monthly as proposed by Brandt [9].

The use of fetal ultrasound should be systematic at each PNV. On the other hand, Doppler velocimetry revealed no abnormality in our series, which could be linked to good control of lupus disease in pre-conception

Table 2. Maternal complications and term of occurrence.

Maternal complications	N	Term of occurrence (WA)	%
Severe preeclampsia	3	23, 28 and 34 WA	37.5
PROM*	2	33 and 34 WA	25
Acute pulmonary edema	1	24 WA	12.5
Pulmonary embolism	1	34 WA	12.5
FDIU**	1	23 WA	12.5
Total	**8**		**100**

*__PROM:__ premature rupture of ovular membranes; **__FDIU:__ Fetal death in-utero.

period as seems to attest to the unique case of intrauterine growth retardation found. It is known that the predictive value of Doppler in the diagnosis of intrauterine growth retardation is not conclusive [16], but its realization can estimate the quality of the utero-placental perfusion.

Preeclampsia is the major complication of these pregnant [13]-[15]. Its frequency varies from 3% to 30% [10]. Our rate of 30% is comparable to that of De Bandt [9], but the weakness of our sample does not allow extrapolating this result. Prematurity is a common complication with varies from 20% to 54% [2]. Our rate of 40% is consistent with the literature. Regarding the prevalence of low fetal birth weight, the studies are divergent with rates ranging from 10% to 35% [2].

Our average length of gestation for preterm infants and full-term pregnancy, seem a little higher than those of Le Thi Huong [17]. This author has found an average period of gestation of 33.3 WA in case of premature birth and 37.4 WA in term delivery. Le Thi Huong [17] found a caesarean section rate of 37%, which is similar to ours.

5. Conclusion

The association SLE and pregnancy is rare in sub-Saharan literature. We recommend a monthly prenatal care for these high-risk pregnancies and early detection of preeclampsia**.**

References

[1] Waldorf, K.M.A. and Nelson, J.L. (2008) Autoimmune Disease during Pregnancy and the Microchimerism Legacy of Pregnancy. *Immunological Investigations*, **37**, 631-644. http://dx.doi.org/10.1080/08820130802205886

[2] Bae, S.C., Fraser, P. and Liang, M.H. (1998) The Epidemiology of Systemic Lupus Erythematosus in Populations of African Ancestry: A Critical Review of the "Prevalence Gradient Hypothesis". *Arthritis & Rheumatology*, **41**, 2091-2099. http://dx.doi.org/10.1002/1529-0131(199812)41:12<2091::AID-ART2>3.0.CO;2-D

[3] Borchers, A.T., Naguwa, S.M. and Carl, L. (2010) The Implications of Autoimmunity and Pregnancy. *Journal of Autoimmunity*, **34**, J287-J299. http://dx.doi.org/10.1016/j.jaut.2009.11.015

[4] Carvalheiras, G., Vita, P., Marta, S., Trovão, R., Farinha, F., Braga, J., *et al.* (2010) Pregnancy and Systemic Lupus Erythematosus: Review of Clinical Features and Outcome of 51 Pregnancies at a Single Institution. *Clinical Reviews in Allergy & Immunology*, **38**, 302-306. http://dx.doi.org/10.1007/s12016-009-8161-y

[5] Clowse, M.E., Magder, L.S., Witter, F. and Petri, M. (2006) Early Risk Factors for Pregnancy Loss in Lupus. *Obstetrics & Gynecology*, **107**, 293-299. http://dx.doi.org/10.1097/01.AOG.0000194205.95870.86

[6] Cortés-Hernández, J., Ordi-Ros, J. and Paredes, F. (2002) Clinical Predictors of Fetal and Maternal Outcome in Systemic Lupus Erythematosus: A Prospective Study of 103 Pregnancies. *Rheumatology*, **41**, 643-650. http://dx.doi.org/10.1093/rheumatology/41.6.643

[7] De Bandt, M. (2005) Lupus et grossesse. *Revue de Rhumatisme*, **72**, 554-562. http://dx.doi.org/10.1016/j.rhum.2004.12.009

[8] Direction Générale de la Statistique (DGS) et ICF International (2013) Enquête Démographique et de Santédu Gabon II. Calverton, Maryland, et Libreville, Gabon: DGS et ICF International. www.stat-gabon.ga

[9] Frouchet, M., Gateff, C. and Pineau, J. (1969) Lupus érythémateux aigu disséminé chez l'africain. A propos du premier cas observé au Gabon. *Medicine Tropical*, **29**, 204-207.

[10] Ibaba, J., Nzenzé, J.R. and Biteghé, B. (2011) Profil épidémiologique, diagnostic, thérapeutique et évolutif du lupus systémique en Afrique subsaharienne. Expérience du service de médecine interne du Centre Hospitalier de Libreville: A propos de 37 observations. *Médecine d'Afrique Noire*, **58**, 551-559. www.santetropicale.com

[11] Le Guern, V., Pannier, E. and Goffinet, F. (2008) Lupus érythémateux systémique et grossesse. *La Presse Médicale*, **37**, 1627-1635. http://dx.doi.org/10.1016/j.lpm.2008.09.001

[12] Le Thi Huong, D., Wechsler, B. and Piette, J.C. (2002) Kidney, Lupus and Pregnancy. *Revue de Médecine Interne*, **23**, 813-818. http://dx.doi.org/10.1016/S0248-8663(02)00696-3

[13] Le Thi Huong, D., Wechsler, B. and Piette, J.C. (1994) French Register of Lupus in Pregnancy: The Evaluation. Groupe d'étude sur la grossesse lupique. *Revue de Médecine Interne*, **15**, 305-317.

[14] Moroni, G. and Ponticelli, C. (2003) The Risk of Pregnancy in Patients with Lupus Nephritis. *Journal of Nephrology*, **16**, 161-167.

[15] Petri, M. (2005) Review of Classification Criteria for Systemic Lupus Erythematosus. *Rheumatic Disease Clinics of North America*, **31**, 245-254. http://dx.doi.org/10.1016/j.rdc.2005.01.009

[16] Petri, M. and Repke, J. (1991) Frequency of Lupus Flare in Pregnancy. The Hopkins Lupus Pregnancy Center Experience. *Arthritis & Rheumatology*, **34**, 1538-1545. http://dx.doi.org/10.1002/art.1780341210

[17] Robert, Y. (2007) Doppler en obstétrique. In: Robert, Y., Ed., *Echographie en pratique obstétricale*, Ardens, E Masson, Paris, 102-105.