Pregnancy In Rhesus Negative Women In Kaduna, Northern Nigeria.

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Abstract

Objective: To determine the incidence, review some anamnestic and bio-demographic characteristics of the women and pregnancy outcome.
Study design: An eight year retrospective review of pregnancies in rhesus- negative women in a University teaching hospital.
Results: There were a total of 10572 deliveries and 76 rhesus negative pregnancies during the period, giving an incidence of 0.7%. The Yoruba ethnic group was the highest contributor of patients (44.73%), while the Southern minority ethnic groups the lowest contributors (3.9%). About 51% of the patients were of ABO Blood group O. Sixty four (84.2%) of the patients have had previous pregnancies and only 8(12.5%) of these received Anti- D(Rhogam) prophylaxis. Seventy two (94.7%) of the pregnancies were booked and 70.8% of them booked after 20 weeks of gestation.
Antibody screening was done in 56.6% of the pregnancies. The incidence of izoimmunisation was 9.1%. Neonatal jaundice occurred in 9.2% of the babies. There was one perinatal death. Only in 19(25%) of the pregnancies was Rhogam administered after delivery.
Conclusion: Rhesus negative pregnancies constitute a small number of our clinical load and the incidence of izoimmunisation appear to be very low. Setting up of dedicated Care centers to enhance good quality care and also enable a didactic pool of patients for postgraduate training is advocated.

Keywords:Rhesus Negative, Pregnancies, Isoimmunisation,Incidence, Antibody screening, Anti-D Prophylaxis, Kaduna, Nigeria.

Introduction

Contributions to medical literature on the effect of Rh factor in pregnancy have reached an impressive total since the discovery of this erythrocytic antigen by Landsteiner and Wiener in 1940 [1], and the more recent development of effective maternal prophylaxis by Freda , Gorman, and Pollack in the USA 1963 [2] and Finn, Clarke and associates in Great Britain 1961.[3]
In Nigeria however literature is limited to a few pioneering studies [4] and remarkably from the geographical West of Nigeria which is predominantly Yoruba in ethnic coloration. The clinical consequences of this blood group in pregnancy is well known , just as the prevention of izoimmunization by the routine administration of Rhesus Anti- D immunoglobin is now entrenched in clinical practice [5]. With the above in mind, therefore, the objective of this study is to determine the frequency of rhesus negative blood group in the population and subpopulations, incidence of isoimmunization ,utilization rate of anti- D immunoglobin, and clinical outcome of pregnancies in the study population.

Materials and Methods

Ahmadu Bello University Teaching Hospital, Kaduna is a tertiary institution located in the geographical north of Nigeria. The case notes of all rhesus negative pregnant women that received care in the hospital between January1, 1990 and December 31,1997 were reviewed for bio-demographic, and clinical data Information was further sort for babies that were admitted in the Special Care Baby Unit from the neonatal case files.

Results

During the period of study, there were a total of 10572 deliveries in the hospital, of which 76 deliveries were from rhesus negative women given an incidence of 0.7%. The Yoruba ethnic group contributed 44.73% of the pregnancies; the incidence of rhesus negative pregnancy in the Yoruba ethnic group, was 1.39%. Table 1.

Table 1
Ethnic Group of Patients.

Ethnic Group	Total No Of Deliveries	No Of Rhesus Pregnancies	Incidence %
Southern Minority	897	3	0.33
Igbo	1337	10	0.74
Hausa/Fulani	2347	11	0.46
Yoruba	2439	34	1.39
Northern minority	3552	18	0.50
Total	**10572**	**76**	**0.71**

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About 51% of women were of ABO blood group O. Table 2.

Table 2

ABO Blood Group of Patients

Group	Nr of women	%
O	39	51.31
A	17	22.36
B	18	23.68
AB	2	2.63
Total	76	100

Sixtyfour (84.2%) of the women have had previous pregnancies and only 8(12.5%) of these received Anti-D immune globulin prophylaxis. Of these 64 women, 13 (20.3%) received care at ABUTHK, and 51(79.7%) elsewhere. Three (23.1%) of women that received prenatal care at ABUTHK received Anti-D, while 5(9.8%) of those that received care elsewhere received. Forty-seven (73.4%) have had past obstetric experience. Six babies had neonatal jaundice, 2 died in the early neonatal period, one baby was stillborn, while one had a congenital malformation - extra-digit. Seventy- two (94.7%) of the pregnancies were registered for Prenatal care at ABUTHK, while 4 were not. Fifty one (70.8%) of those registered, did so after 20 weeks of gestation. Of the 47 women with previous obstetric experience, about 74% of them registered for care after 20 weeks. Antibody screening was done in 43 (56.6%) of the patients; none of them had antibodies at initial screening.

Reasons for non-screening during the prenatal period among the 33 women that were not screened for antibodies ranged from; no money or outright refusal 13(39.4%),late registration 9 (27.3%), not requested by attending physician 11(33%). Prenatal iso-immunization occurred in 3 (9.1%) of the 33 women that had antibody surveillance.

Complication of pregnancy among the women included. Preeclampsia 3(4%); IUGR, 1(1.3%); Polyhydramnios 1(1.3%); Placenta previa 1(1.3%). Labor was complicated in 4 of the patients - 3 had prolonged labor and 1, fetal distress. Caesarean section was performed in 13(17.1%) while vaginal delivery was achieved in 63 (82.9%) of the women.

All babies were rhesus positive. Neonatal jaundice occurred in seven (9.2%) of the babies; only in one baby was it serious enough to necessitate exchange blood transfusion.There was one perinatal death. **Only in 19(25%) of the pregnancies, in 19 women among whom 6 were primigravidae, was rhesus Anti-D administered following delivery; 4 of these received Anti-D in antecedent pregnancies.**

Discussion

The incidence of Rhesus (D) negative pregnancies is very low and appears to be a reflection of the general blood group distribution that is expected from an admixture of ethnic nationalities that seem to characterize the Kaduna population. This is in contrast with the Ibadan[4] , Abeokuta[6] and Lagos[7] studies where ethnic homogeneity is more evident. The Yoruba ethnic nationality from available studies in the country [4,6,7] have been shown to have higher incidences of Rhesus negativity; this study further confirms this lead among all other ethnic groups. There must be a genetic side of this lead since the Northern ethnic minority group that contributed the highest number of pregnancies during the study had only an incidence of less than one percent.

The Teaching hospital did not handle majority of the antecedent pregnancies despite the high risk classification of this potentially serious disorder. This is attributable to the poor organizational structure of the Health system in Nigeria in general and the lack of awareness of the clinical implication of this blood group among both clients and Service providers as revealed in this study.With regards to anti-D prophylaxis in antecedent pregnancies, it is disheartening that only about a quarter of the patients registered at ABUTHK received immune prophylaxis. It is however apparent from this study that ABUTHK clients are more likely to receive prophylaxis, probably as a reflection of a comparatively better quality of care, that is expected of a tertiary institution.

The culture among Nigerian obstetric clients of, late registration for prenatal care is once more exhibited in this study, as in other studies [8,9] This late registration is very likely to hamper the orderliness of clinical and laboratory surveillance of these pregnancies. Only about half of the clients were screened for the presence of antibodies in this study. This is lower than the figures reported from Southern Nigeria. The reasons for this ranged from lack of money, time of presentation for care, clients compliance for medical recommendations, antecedent obstetric history and oversight on the part of Service providers, especially the younger ones ,who now appear to be inappropriately taking lead roles in the management of high risk pregnancies.

The incidence of Rhesus izo-immunization in Kaduna was higher than the figures reported from Lagos, Ibadan and Abeokuta which are predominantly Yoruba and all in Southern Nigeria. The reasons for this disparity will include genetic susceptibility of the different ethnic groups, obstetric practices, and probably availability and use of Rhesus immune globulin prophylaxis and also other yet to be established factors.

Obstetric complications and mode of delivery of the patients appear not to be different from that of the general obstetric population of Kaduna[8]. Interestingly, post delivery anti-D prophylaxis was very low and the reasons for this are not very much different from those that existed in antecedent experiences.

Rhesus negative pregnancies indeed constitute a small volume of our clinical load and the incidence of iso-immunization appear to be very low too in Kaduna.The need to determine Blood groups of all pregnant clients cannot be over emphasized. Also all Rhesus negative clients should be offered screening for antibodies and attempts at reducing chances of embryo/fetal-maternal transfusion by informed obstetric practices as described by Donald [5] should be taught and encouraged. The practice of routine immune globulin prophylaxis at least in the immediate postnatal period will go a long way towards further reducing the incidence of iso-immunization in Nigeria; this process will be further enhanced by making immune globulin readily available and also at reduced cost.Overall, there is the need for public awareness of the hazard of this Blood group and Service providers at various levels of care should be refreshed of this clinical problem by way of workshops and seminars.It is recommended that regional Rhesus Disease Care Centers be set up to enhance good quality care and also enable a didactic pool of patients, for Postgraduate training.

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