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Study of Obstetric Outcome in Dermatosis of Pregnancy in District Hospital

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Abstract
Background: *Pregnancy is a period of profound changes influenced by hormonal immunological haematological and vascular changes causing several manifestations of all systems of the body including skin and appendages. Dermatosis in pregnancy require special care and knowledge on its outcome to assess the prognosis of the skin condition and its impact on mother and neonatal morbidity.*
Objectives: *To determine the prevalence of dermatosis of pregnancy and obstetric outcome.*
Methods: *A total of 42990 ante natal mothers who attended ANOP only 16 women required Dermatologist consultation and 7717 deliveries in MCH Hospital attached district hospital Vizianagaram AP were studied during the period of 2018 from January to December, Skin, Hair, Nail changes were observed and followed postnatally for 42 days to assess the outcome of changes and impact on maternal and neonatal morbidity.*
Results: *Age of the pregnant mothers ranged from 18 to 35 years, out of 7717 pregnant women who delivered, 5874 skin leisons observed, commonest observation were Stria Gravidarum and Linea Nigra, Melasma, the commonest specific dermatosis include Intrahepatic Cholestasis of Pregnancy (ICP) Atopic Eruption of Pregnancy (AEP) followed by fungal infections. None of the candidates showed impact on obstetric outcome.*
Conclusion: *7717 pregnant women who were studied, who attended labor room for delivery and followed upto 42 days peurparium period, 76% of the cases were found to have dermatosis out of which 90% are asymptematic and insignificant like Stria Gravidarum Linea Nigra and Mild Acne certain conditions like ICP, AEP, PG and PEP are more distressing interfering with quality of life requiring treatment to alleivate symptoms, prurites due to ICP vulvovaginal Candidiasis with secondary infections and use of traditional henna mixed with Chemicals pose difficult situations for prolonged treatment. High index of Suspecion and Systematic Evaluation of Pregnancy Dermatosis are very essential in the management to reduce the discomfort and to have a desirable obstetric outcome.*
Keywords: *Dermatosis, Vulvovaginitis, Atopic Eruption of pregnancy.*

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I. Introduction

Pregnancy is associated with various changes some may turn into more pathological situations interfering with the quality of life, at times life endangering conditions like Sepsis, PPH, No system in the body is left with changes of pregnancy. These changes are attributed to immunological, humoral, vascular and metabolic conditions during pregnancy Oestrogen, Progesterone, Androgen, ACTH, Corticosteroids, MCH and placental hormones are secreted in excess of normal range. These hormones produce Cutaneous Manifestations and Vascular Changes, Luteoma of Pregnancy can cause excessive secretion of Androgens which may cause Acne Vulgaris, Hirsutism, Excessive Sebum, Hyperhidrosis. Palmar Erythema, Gingival Hyperplasia, Spider Nevus and Varicose veins are common with Oestrogen excess. ACTH and MCH hormones can lead to Melasma and Hyperpigmentation.

Immunological manifestations like increased TH_2, cytokines, decreased IL_2 production TNF-α can lead to dermatosis and vulnerable to Candidial infection particularly Vulvovaginitis and Tinea Corporis. Vascular growth factors from Placenta can cause vascular changes for example Fibroblast Growth Factor or VEGF.

Pregnancy dermatosis are classified into 3 categories:

A. Benign skin lesions like Stria Gravidarum, Melasma, Hair Fall and Hirsutism which can cause cosmetic problems.
B. Pre existing skin lesions like Dermatophytoses Vulvovaginal Candidiasis Psoriasis SLE
C. Pregnancy specific dermatoses like Intrahepatic Cholestasis of Pregnancy (ICP), Prurigo of Pregnancy (PP), Pruritic Urticaria Papules Plaques of Pregnancy (PUPPP), Impetigo Herpetiformis etc.

II. Materials And Methods

A total number of 7717 pregnant women who attended labor room for delivery during the period of 2018 from January to December, 1 year period and observed for Catuneous Manifestations upto their postnatal period till they come for 6 weeks vaccinations to their babies and assessed the skin changes and the outcome in post natal period and obstetric outcome.

Inclusion Criteria: All pregnant mothers attending ANOP and referred to Dermatologist, and those who attended labor rooms.
Exclusion Criteria: Patients not willing to give informed consent for the study.

III. Results

A total of 7717 pregnant women were studied who attended labor rooms and post natal checkups during vaccination for their babies. Age of the patient range from 18-35 years. Commonest physiological changes observed were Stria Gravidarum, Linea Nigra, Vulvavaginal Candidiasis and specific dermotosis of pregnancy were Intrahepatic Cholestasis of Pregnancy (ICP) with pruritis, Atopic Eruption of Pregnancy (AEP) and coincidentally dermatosis were Tenia Corporis, Eczema, Contact Dermatitis, iatrogenic with drugs and chemicals (Perticularly chemicals mixed with Henna).

IV. Discussion

During the period of study of 1 year with 7717 pregnant women in the District Hospital, Vizianagaram who visited for Ante natal Checkups, LR and Post natal Checkups the following observation were made.

90% of the Dermotosis of pregnancy were Asymptomatic, physiological and do not interfere with pregnancy and no complaints were made such as Linea Nigra, Striae Gravidarum. Striae Gravidarum is due to stretching of skin, rupture of elastic fibres due to mechanical factors as well as hormones i.e ACTH, relaxin, estrogen. Emollients like Vitamin E, cocoa butter, aloe vera gives good symptomatic relief. Melasma responded well to sunscreen lotions, avoidance of sunlight exposure, tretinoins, hydroquinone application give better results. Cosmetic disfigurement with melasma may require prolong treatment particularly in fair skinned individuals.

The commonest preexisting dermatosis are dermatophytosis, Psoriasis, scabies for which treatment should be given cautiously as oral Itraconazole, Fluconazole, permethrin to be avoided during pregnancy for their teratogenic effects.

Among specific dermatosis of pregnancy, pruritus without skin lesions is the most common problem probably due to ICP, due to metabolic action of oestrogen with biliarystasis accumulation of bileacids can cause severe itching with scratches and secondary infections found to be common problem. Theoretically ICP can lead to preterm labor, fetal distress with advers obstetric outcome. In practice none of the pruritis cases were found to be any adverse obstetric outcome but only cause discomfort and interfere with day to day work and necessitates the use of cholestemanie and antihistamines the second most common condition observed was AEP with papular pustular rash which were easily responded to antihistamine and occasionally with corticosteroids. PUPPP is the most pregnancy specific dermatological disorder responds to antihistamines and steroids, the condition is attributed to incitation of immunological system with stretching of skin and release of humeral mediators like kellikrine, bradykinin, serotonin. Intrahepatic cholestasis of pregnancy with rised bile acid levels may theoretically develop fetal distress, MSAF, Intrauterine demise with associated Vitamin K deficiency. Ursodeoxycholic acid, cholestyramine and steroids give symptomatic relief. Impetigo herpetiformis, a form of pustular psoriasis is very rare that condition commonly require antenatal fetal surveillance. Prurigo gestinosis and pruritic follicluies were least common.

Antibiotics that were used during pregnancy for the treatment of UTI and iron tablets, injections for correction of anaemia have produced skin rashes.

Among vascular changes varicose veins were found to be common 10% of varicose veins have produced symptoms like bursting pain and cramps bleeding PR are observed rarely. Varicose veins and haemorrhoids produce mild symptoms which were subsided postnatally 6 weeks after delivery.

Henna powder with Chemicals for intensifying colour used in cones are very commonly used as traditional in the area. two patients developed blisters bullous lesions which are responded to antihistamines and corticosteroids. Traditionally the pregnant women use henna paste. The natural henna paste has not given any adverse effects. If synthetic materials is mixed in henna for better colour contrast some of the pregnant mothers developed severe blister formation but respond to steroids and antihistamines.

Lesions like dermatophytosis are exaggerated but responded well to local antifungal cream similarly Candidiasis vulvovaginitis well responded to antihistamine and local antifungal creams.

Almost all dermatosis specific to pregnancy were spontaneously resolved as it was observed during postnatal period. Atopic eruption of pregnancy (prurigo gestinosis) is due to TH_1, interleukin 2 & 12, deficiency

and decreased cell mediated immunity. Very common but benign and respond well to treatment. pemphigoid gestinosis has poor prognosis. Generally resistant to steroids and require immunosuppression. But immunosuppression are contraindicated in pregnancy hence resistant cases need immunoparesis, this condition needs screening of other autoimmune diseases like graves disease.

Though dermatoses of pregnancy are benign and self limiting, special attention has to be paid for relieving the symptoms of women who have already other associated problems like edema, hypertension, arthritis, backache and cosmetic disfigurement.

V. Conclusion

The study of dermatosis of pregnancy and obstetric outcome was conducted in view of large study material available in the department of obstetrics MCH block district hospital Vizianagaram where the delivery load is 800 per month highest in the state among district hospital excluding medical colleges. In general treatment is on nutritional supplement, correction of anaemia, correction of preterm labour and treatment of high risk pregnancy and conduct of delivery but knowledge on dermatoses of pregnancy is essential with high index of suspension on certain pregnancy specific dermatosis which may cause adverse obstetric outcome like ICP, most of them have responded well to medical management privileged communities only requested the obstetrician for cosmetic purposes like stria gravidarum and for melasma, pruritus unless the lesions are severe causing distress and disfigurement none has come for consultation for the skin disease.

Pregnancy dermatosis are mostly benign reversible and respond to treatment because of edema, decreased immunity and humaral mechanism the chance of secondary infections are more. Primary prevention by way of health education like wearing light and cotton clothes reduction of cosmetics and creams particularly tritonin (teratogenic). Minimum exposure to sunlight, avoidence of known drugs causing allergy and balance diet. Dermatologist referral may be needed to differentiate pregnancy specific dermatosis and pre existing skin lesions. Some of the dermatosis specific to pregnancy like ICP, PUPPP, AEP, Pemphigoid Gestationis require specific attention as they are related to adverse obstetric outcome. For cosmetic reasons some of the dermatosis are treated with emollients, sunscreen lotions, hydroquinone for conditions like Stria and Melasma. Associates endocrine disorders with skin manifestations should be screened like hypothyroidism (dry scaly skin) or cushing syndrome (papery thin skin with easy bruising) the possibilities of thrombocytopenia associate with HELLP syndrome should be born in mind when purpuric spots are observed in a pregnant women with PIH.

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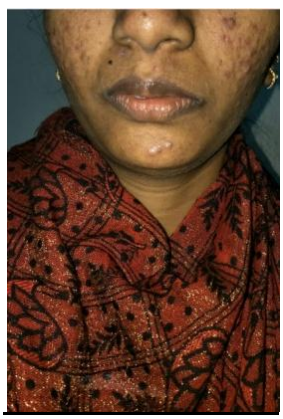
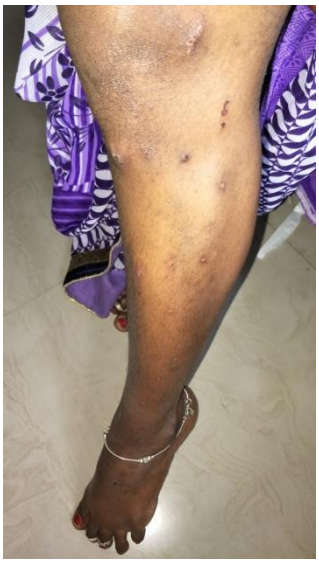
Tables:

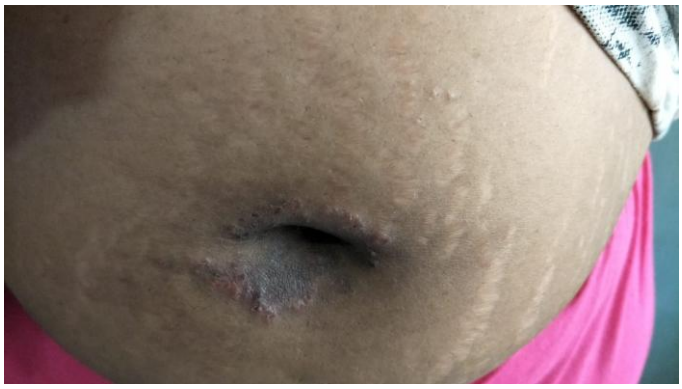
Photos:



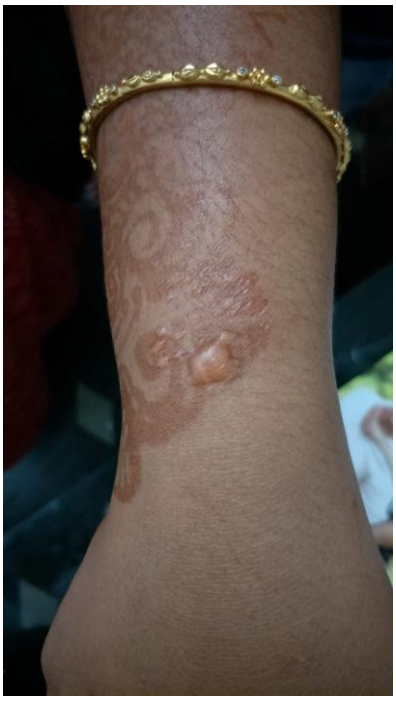
Acne vulgaris in pregnancy



Atopic eruption of pregnancy



Taenia corporis near umbilicus

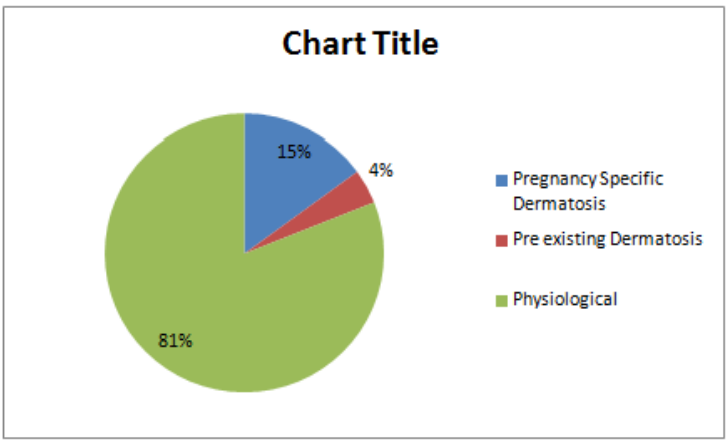


Bullous leison following henna with chemicals application.

Frequency of Type of Dermotosis Observed In Op Clinic

S.No		Disease Type	No. of Cases	%
1.	Preexisting dermatosis	Tenia Corporis	470	1.47
		Psoriasis	2	0.006
		Scabies	280	0.87
		Eczema	302	0.94
2.	Specific Dermatosis of Pregnancy	Atopic Eraption of Pregnancy (AEP)	500	1.56
		Polymorphic Eraption of Pregnancy (PEP)	250	0.78
		Pempegious Gestation	6	0.02
		Intrahepatic Cholestasis of Pregnancy (ICP)	1860	5.8
		Pruritic Urticaria Papulis Plagues of Pregnancy (PUPPP)	560	1.75
		Vulvavaginal Candidiasis	2100	6.58
3.	Physiological Changes in Pregnancy	Stria Gravidarum	Very Common	65
		Linea Nigra	Very Common	15
		Melasma	350	1.09

Pie Chart:



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No. Of Dermatosis of Pregnancy in Pregnant Women Attended Labor Room

Month	No. of Deliveries	No. of Neonatal Deaths	No. of preterm deliveries	No. of case with cutanious manifestations	%
JAN	620	6	2	450	72.5
FEB	615	4	1	459	74.6
MAR	558	3	2	472	84.5
APR	670	7	3	530	79.1
MAY	680	4	6	480	70.5
JUN	638	5	4	538	84.3
JUL	782	5	3	602	76.9
AUG	636	2	2	450	70.7
SEP	702	2	4	560	79.7
OCT	650	7	4	350	53.8
NOV	690	2	5	580	84.0
DEC	476	4	2	403	84.6
	7717	51	38	5874	76.11

No. Of Dermatosis In Pregnancy In Out Patient Clinic Reffered To Dermatology Department Requiring Special Treatment

Month	No. of Antinatal Mothers attended OP	Specific Dermatosis Identified and referred to Dermatology Department requiring special treatment	Conditions
JAN	120X25=3000	2	IHP, AEP
FEB	118X25=3540	1	PUPPP
MAR	132X25=3300	2	Prurites with infection, AEP
APR	142X25=3550	0	
MAY	132X25=3300	0	
JUN	162X25=4050	1	AEP
JUL	134X25=3350	2	IHP, AEP
AUG	158X25=3950	4	IHP, AEP

SEP	162X25=4050	2	IHP, AEP
OCT	138X25=3450	1	IHP
NOV	146X25=3650	0	-
DEC	152X25=3800	0	-

Correlation with Other Studies

	Kumar etal	Puri & Puri	Rajet al	Present study
Striae gravidarum	79.7%	62%	75%	65%
Melasma	2.5%	88%	10%	1.09%
Fungal infection	2.6%	16%	2.9%	1.47%
PEP	63.6%	22%	1.2%	0.78%
ICP	22.7%	-	0.9%	5.8%
Psoriasis	0.16%	-	-	0.06%
Scabies	-	-	4.2%	0.87%

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