

Puerperal Complications: It's Association with Anemia

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Abstract

Background: Anemia in pregnancy is associated with a large number of complications not just in the antepartum, intrapartum but also the puerperal phase, being responsible for both fetomaternal morbidity and mortality.

Material and Methods: This was an observational study conducted in our hospital on 476 patients out of which 276 patients were anemic and 200 were non-anemic. All anemic women in puerperal phase were included in the study while puerpera with complications other than anemia were excluded. Comparison was done with regards to puerperal complications in anemic and non-anemic women. An association of complications with severity of anemia was studied.

Results: Risk of puerperal complications were higher in anemic women in comparison to non-anemic women and a direct relationship could be drawn with the severity of anemia. Most common complication was respiratory tract infection affecting all subgroups of anemic women 161(58.33%) as compared to non-anemic women 75(37.5%).

Conclusion: Severity of anemia is a major determining factor in puerperal complications and its outcome. An emphasis on anemia prevention, early diagnosis and prompt correction of anemia play an important role in reducing morbidity and mortality related with associated complications.

Keywords: Puerperium, Anemia, Pregnancy.

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Introduction

Puerperium is the period of 6 weeks following childbirth during which the maternal organs revert back to the pre-pregnancy state. Anemia in pregnancy especially patients with severe anemia have a slower rate of reversion due to a number of factors related directly or indirectly to the acute or chronic hypoxic state as a result of anemia.

Numerous studies have suggested that anemia in pregnancy has been related to adverse maternal and perinatal outcome[1,2]. These complications not only exist in the antepartum or intrapartum period but also extend into the puerperal phase as suggested by numerous data available[1-5]

This study was done in an attempt to compile together the various complications associated with anemia in the puerperal period and its comparison with non-anemic puerpera. Also, results were deduced in terms of severity of anemia and its relationship with complications.

Material and Methods:

This was an observational study conducted from September 2019 – September 2021 on 476 women in their puerperal phase. Of these 276 were anemic women with varying severity of anemia and 200 were non anemic women. All anemic women in puerperal phase were included in the study while subjects with puerpera associated complications other than anemia were excluded. This was a comparative study between anemic and non-anemic puerpera and complications were also studied in terms of severity of anemia on the basis of hemoglobin (Hb%) concentration and classified as mild (10-10.9 gm%), moderate (9.9-7gm%), severe (6.9-4gm%) and very severe (<4gm%). Data was collected from OPD and IPD. In all patients a detailed history was taken, general and systemic examination was performed and routine and specific investigations were sent.

Results:

Table 1: shows percentage complications of anemic and non-anemic women in puerperal phase

Complications	Anemic (N=276)								Overall Anemic (N=276)		Non Anemic (N=200)	
	Mild (N=75)		Moderate (N=145)		Severe (N=40)		Very Severe (N=16)					
	n	%	n	%	n	%	n	%	n	%	n	%
Pyrexia	7	9.33	12	8.27	8	20	6	37.5	33	11.95%	18	9
Delayed wound healing	5	6.66	10	6.89	10	25	6	37.5	31	11.23	12	6
Puerperal Sepsis	0	0	0	0	2	5	2	12.5	4	1.44	0	0
Delayed/ failed lactation	2	2.66	6	4.13	3	7.5	2	12.5	13	4.71	5	2.5
Respiratory tract infection	27	36	95	65.5	28	70	11	68.7	161	58.33	75	37.5
Urinary tract infection	10	13.33	16	11.03	12	30	6	37.5	44	15.94	20	10
Secondary PPH	4	5.33	3	2.06	3	7.5	1	6.25	11	3.98	4	2
Shock	0	0	1	0.68	8	20	7	43.75	16	5.79	0	0
Postpartum Depression	2	2.66	4	2.75	4	10	2	12.5	12	4.34	2	1
Uterine Subinvolution	5	6.66	5	3.44	15	37.5	7	43.7	32	11.59	10	5

*PPH=postpartum haemorrhage

A total of 276 anemic women and 200 non anemic women were studied.

Out of 276 anemic women, 75 had mild anemia, 145 had moderate anemia, 40 had severe and 16 suffered from very severe anemia.

Most common complication over all was the respiratory tract infection both in anemic and non-anemic women but the

prevalence was more in anemic 161(58.33%) as compared to non-anemic 75(37.5%).

There were no cases of puerperal sepsis and shock in non-anemic group. 5% sepsis cases in severe anemia and 12.5% cases of sepsis in very severe anemia were observed in anemic group.

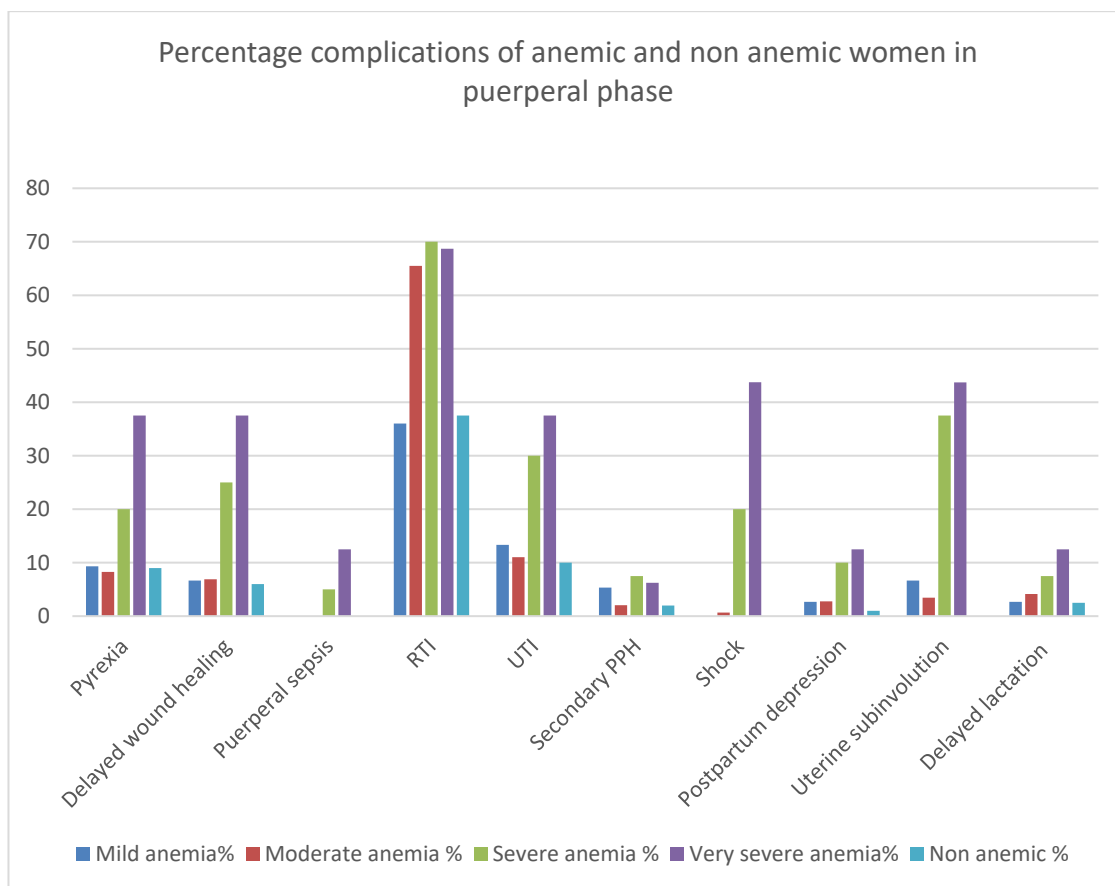


Figure 1: shows percentage complications of anemic and non-anemic women in puerperal phase

There was not a very significant difference in the complications when comparison was done

in the collective data of anemic and non-anemic women without sub categorization on the basis of severity of anemia.

Puerperal complications in women with severe and very severe anemia were high thus concluding that puerperal complications have a direct relation with the severity of anemia.

Discussion:

Anemia in pregnancy is not just associated with antepartum or intrapartum complications but also associated with a number of complications even during the puerperal phase.

In this study 33(11.95%) anemic women and 18(9%) of non-anemic patients had puerperal pyrexia hence not much of a difference was seen in the two groups but incidence was higher with increasing

severity of anemia ranging from (20-37.5%) in women with severe anemia.

Study done by Maharaj et al⁵ suggested an association of fever with infection in anemic women. Various sources of infection were taken into consideration in this study ranging from nosocomial to exogenous to endogenous sources like delivery in unhygienic conditions, genital tract infection, puerperal sepsis, endometritis etc.

Delayed wound healing was seen in 31(11.23%) anemic and 12(6%) non anemic women with maximum cases seen in severe 10(25%) to very severe anemia 6(37.5%) group, data from other studies were also suggestive of similar results.[2,3,4]

Delayed lactation was also more common in anemic 13(4.71%) as compared to non-anemic 5(2.5%) group of patients, failed lactation was mostly seen in patients with massive PPH or those with over all poor general condition. Similar incidence of delayed or failing lactation were seen in other studies as well[2,3,4].

Risk of urinary tract infection (UTI) in anemic 44(15.94%) as compared to non-anemic women 20 (10%) is only slightly higher though UTI risk increases manifold as the severity of anemia increases ranging from 30-37.5% in patients with severe group in this study. Similar results were also seen in study done by Giles C. et al.[6]

Respiratory tract infection was seen in 161(58.33%) anemic women and 75(37.5%) non anemic women in this study which was more common in patients with severe anemia (68.7-70%) either due to respiratory load due to pre-existing pulmonary edema or pulmonary edema due to injudicious use of fluids or in operated cases due to anaesthesia related complications.

Postpartum depression was seen in 12(4.34%) anemic women and 2(1%) non

anemic women in this study. The risk of association between anemia and postpartum depression were not similar in different studies; in the studies of Armony et al[7], Eckerdal et al[8] and Peterson et al[9], this association was not significant, but it was significant in the studies of Akbari et al[10], Alharbi et al[11] and Corwin et al.[12]

Uterine sub involution was seen in 32(11.59%) anemic and 10(5%) non anemic patients with incidence in severe 15(37.5%) and very severe 7(43.7%) anemia being significant which was in accordance with the study conducted by Manisha Nair[13], Brooker et al[14] and Haider et al[15].

Conclusion:

Severity of anemia is one of the major determining factors in puerperal complications.

Improving the living standard, access to free education, good nutrition, iron folic acid supplementation in all women of reproductive age, sanitization, deworming, safe drinking water for all, timely detection of anemia, frequent antenatal visits, provision of blood banks, are some of the measures that can ensure safe maternal and perinatal outcome.

A good team work starting from prevention to treatment is the key to prevent morbidity and mortality associated with anemia in various phases of pregnancy.

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