International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

ISSN:2347-6567

IJAMSCR |Volume 7 | Issue 2 | Apr - Jun - 2019
www.ijamscr.com

Case Report *Medical research*

DIC with abruptio placenta, HELLP and Preeclampsia induced AKI-A case report

M. Devika Priyadarshini*, P. Spandana Reddy*, D. Rishitha Reddy*

Department of Pharmacy Practice, Samskruti College of Pharmacy, Kondapur, Ghatkesar.
***Corresponding Author**: **M. Devika Priyadarshini**

ABSTRACT

Introduction

A complication of pregnancy, HELLP syndrome is manifested by hemolysis, elevated liver enzymes and low platelets. A well-manifested HELLP may precipitate the symptoms of DIC which is usually undetectable.

Case report

A 27year old primigravida at 33 weeks + 3 days of gestational age presented to EMD after reference from local hospital i/v/o absent fetal cardiac activity for further management.

Conclusion

Preeclampsia may be an underlying cause for DIC which has to be diagnosed at the earliest. The incidence depends on many parameters such as age, race and underlying medical conditions.

Keywords: DIC, HELLP, Preeclampsia, AKI.

INTRODUCTION

Disseminated intravascular coagulation is characterized by a systemic activation of coagulation leading to intravascular fibrin deposition without specific localization. The most common cause of DIC in pregnancy is preeclampsia which is associated with activation of blood coagulation resulting in macroscopic fibrin deposits in multiple organs in severe cases. Thrombocytopenia is the early indicator of DIC [8]. Though there is a hypothesis that disseminated intravascular coagulopathy (DIC) is the initial process of HELLP, no abnormalities are seen in some patient's coagulation studies. A well-manifested HELLP may precipitate the symptoms of DIC which is usually undetectable [2]. HELLP syndrome is a complication of pregnancy which is manifestedby hemolysis, elevated liver enzymes and low platelets. The more classical form of DIC is caused due to sepsis, trauma and malignancy, but also includes peri-partum hemostatic emergencies. It is estimated that in about 15% of patients peri-partum hemostatic emergency such as abruptio placenta and retained dead fetus syndrome precipitates DIC [8].

CASE REPORT

A 27year old primigravida at 33 weeks + 3 days of gestational age with a history of PCOS since 1 year. She was presented to EMD after reference from local hospital i/v/o absent fetal cardiac activity for further management. She was on OCP for 3 months and during pregnancy she took regular

hematinic and calcium supplements. Took 2 doses of TT injections. Diagnosed with oligohydramnios during sixth month was given IV hydration and artyramine and managed by antenatal steroids. At the time of admission patient was afebrile with vitals as follows pulse rate- 85bpm, respiratory rate-24/min, BP-130/90mmhg, SpO2-99% and GRBS-177 mg/dl. Patient was admitted with c/o absent fetal movements since previous day and tightness of abdomen with 2-3 episodes of vomiting, USG at a local hospital showed no cardiac activity of the fetus. O/E patient conscious, coherent had pallor and tenderness and provisionally diagnosed as **primi with 8 MA IUFD, abruptio placenta** and was further planned for delivery. Antenatal USG shows absent cardiac activity with cephalic presentation and fundal anterior of placenta shows a large ill- defined heterogeneous area (with 6cm thickness) with no internal vascularity noted in reteroplacental region likely hematoma.

In view of her low hemoglobin and platelet levels (Hb-7.1g/dl, platelets-45000/microliter) blood transfusions were started. Peripheral smear showed normocytic, normochromic and few tanget RBC, neutrophilic leukocytosis, markedly reduced platelets. She was started on IV hydration and Inj.Tranexa. Labor was induced with oxytocin and underwent NVD. She delivered a dead male fetus of weight 1.37Kg, placenta and membrane delivered (placenta – 340gm) and a reteroplacental blood clot of 800mg was noted. Cord blood could not be collected due to collapsed vessels and a small vaginal mucosal tear of 1*1 cm noted. Continuous BP and urine output were monitored with BP going as high as 170/110 mm/hg and she was started on Inj. Labetolol. LFT's are 1.3mg/dl of total bilirubin, SGPT: 135U/L, SGOT: 158U/L, ALP: 241 U/L, T. protein- 4.8g/dl, albumin and globulin 2.4g/dl, RBS is 155mg/dl. LDH: 1641. INR: 1.92, APTT: Test 54, control 37. Urine analysis showed trace glucose, albumin +++, negative for ketones, WBC: 15-20, RBC: 15-20, epithelial cells: 8-10. Mild ascites and gaseous abdominal distension was noted which resolved gradually. She was diagnosed as primi at 33+3 week GA with abruption placenta with IVFD with DIC with severe thrombocytopenia and HELLP syndrome. She was managed with blood transfusions 4 pints of PRBC, 6 pints of FFP, 2 RDP, 2 SDP and anti-D immunoglobulins. There was no seizure activity during the stay.

She was then shifted under nephrology care in view of her decreased urine output and increased creatinine levels, creatinine: 6.6mg/dl, blood urea: 177mg/dl and sodium and chloride: WNL and potassium: 3.3meq/L. IJV catheterization was done and patient was started on HD- heparin free with ultrafilterate with diagnosis of postpartum AKI. A temperature of 101°F was observed and managed with acetaminophen 650mg. Watering and redness of eye was noted on the second day while in nephrology unit which was diagnosed as S/O hypertensive retinopathy with grade-4 retinopathy changes, retinal detachment and vitreous hemorrhage. For further management of eye she was sent to other higher center. She underwent parsplasma lensectomy of right eye, AC wash and was started on inj. voriconazole. No growth in blood culture was seen. Upon torch examination right eye showed congestion, chemosis and watery discharge, NAD in left eye. Hypertensive retinopathy is seen Grade-4 in right eye and grade-2 in left eye. Slit lamp examination: EOM of right eye showed diminished motility in all gazes, left eye WNL. Right eyelid has edema, proptosis. Conjunctiva showed chemosis grade-4. Fundus of right eye showed retinal edema with superficial hemorrhages. Patient was managed by giving antibiotics, loop diuretics, blood transfusions and potassium supplements as needed, antibiotic eye drops and eye gel.

DISCUSSION

HELLP syndrome is a serious issue in pregnancy which is often underdiagnosed in the initial stage due to its ill-defined pathophysiology. The possibility of HELLP should be considered always when there is a presentation of thrombocytopenia in order to initiate treatment at the earliest and to prevent complications, prenatal mortality and postnatal morbidity [1]. In about 0.2-0.6% pregnancies HELLP syndrome is seen, whereas preeclampsia is seen in 5-7% pregnancies. Both HELLP syndrome and preeclampsia or eclampsia are manifested in 4-12% of the patients. Women with HELLP syndrome develop serious complications such as DIC, placental abruption, adult respiratory distress syndrome, hepato-renal failure, pulmonary edema, subcapsular hematoma and hepatic rupture.

Mortality rate is about 1.1% in women and 10-60% in infants depending on the severity of maternal disease. Intrauterine growth retardation and respiratory distress syndrome are seen mostly in infants affected with HELLP syndrome [2]. The statistics of DIC during pregnancies varies from 0.03-0.35% in different nations. Preeclampsia and HELLP are the prevalent causes of DIC in developing countries, in developed countries placental abruption and postpartum hemorrhage are leading factors. In 12-14% of women with preeclampsia DIC is reported [7]. IUFD in about 11% of women is associated with coagulopathy, preexisting preeclampsia, HELLP, uterine rupture or an acute clinical problem. As per statistics in about 4% of cases coagulopathy developed without any evidential cause [3]. A recent report from Canada showed an increasing incidence of pregnancy related AKI from 1.66 per 10000 deliveries between 2003–2004 to 2.68 per 10000 deliveries between 2009–2010. There may be many factors precipitating AKI in addition to higher rates of hypertensive disorders of pregnancy [4]. As per study the most common culprits for AKI are preeclampsia, thrombotic microangiopathy (TMA), heart failure, sepsis or postpartum hemorrhage [5]. Another study concludes that HELLP syndrome progressees into DIC in 15-38% of patients [6]. A study from Croatia have reported 45% of retinal changes in their study of 40 preeclampsia patients. There was a statistical correlation between proteinuria, BP and hypertensive retinopathy. The degree of progression of retinopathy is directly proportional to severity of preeclampsia [10].

CONCLUSION

Hypertension is the most common complication of pregnancy with minimal clinical significance which may lead to serious complications like mild elevated BP to multiorgan dysfunction. The incidence depends on parameters such as age, race and underlying medical conditions. Knowing the severity of hypertension and its complications is of great importance, as it may lead to maternal and perinatal morbidity and mortality [9]. Preeclampsia might be an underlying cause for DIC which should be diagnosed at the earliest, authentic diagnosis can be made by routine lab tests which can be scored as per ISTH-DIC score. Validating this score in patients with pregnancy and peri-partum period can help to avert serious conditions [8]. Complete blood counts and monitoring of blood pressure during antenatal care will play a vital role in managing and curbing the escalation of condition. Thrombocytopenia if present should not be neglected and the root cause should be treated to prevent the progression to DIC.

Conflicts of interest

None.

Abbreviations

- EMD: emergency department PCOS: Polycystic ovarian syndrome OCP: oral contraceptive pills
- BPM: beats per minute PR: Pulse rate
- RBC: Red blood cells WBC: white blood cells
- INR: international normalized ratio APTT: Activated plasma thrombin time K/C/O: know case of
- I/V/O: in view of P/V: per vaginal
- TLC: total leucocyte count LFT: liver function test
- SGPT: serum glutamic pyruvic transaminase SGOT: serum glutamic oxaloactetic transaminase ALP: Alkaline phosphatase
- RBS: Random blood sugars GA: Gestational Age
- IUFD: Intra uterine fetal death
- DIC: Disseminated intravenous coagulopathy NVD: Normal Vaginal Delivery
- PRBC: packed red blood cells FFP: Frozen fresh plasma RDP: Random donor platelet SDP: Single donor platelet NAD: No abnormality detected EOM: extra ocular muscle
- BP: Blood pressure PR: Pulse rate
- WNL: within normal limits. AKI: Acute kidney injury HD: hemodialysis
- HELLP: hemolysis, elevated liver enzymes, low platelets.

REFERENCES

[1]. An Unusual Case of Postpartum Thrombocytopenia. JM Dua*, Sudha Kansal*, Nishant Kanodia** and Prashant Nasa***. Apollo Medicine 7(1), 2010, 64-68.

[2]. HELLP Syndrome: Recognition and Perinatal Management. MAUREEN O'HARA PADDEN, LCDR, MC, USN, Naval Hospital, Camp Pendleton, California. *Am Fam Physician.* 60(3), 1999, 829-836.

[3]. Intrauterine fetal death and delivery complications associated with coagulopathy: a retrospective analysis of 104 cases. Tempfer CB[1], Brunner A, Bentz EK, Langer M, Reinthaller A, Hefler LA. J Womens Health (Larchmt). 18(4), 2009, 469-74. doi: 10.1089/jwh.2008.0938.

[4]. Hypertensive disorders of pregnancy and the recent increase in obstetric acute renal failure in Canada: population based retrospective cohort study. Mehrabadi A, Liu S, Bartholomew S, Hutcheon JA, Magee LA, Kramer MS, Liston RM, Joseph KS, Canadian Perinatal Surveillance System Public Health Agency of Canada. BMJ. 30, 2014, 349-731.

[5]. Characteristics and Outcomes of AKI Treated with Dialysis during Pregnancy and the Postpartum Period. Hildebrand AM, Liu K, Shariff SZ, Ray JG, Sontrop JM, Clark WF, Hladunewich MA, Garg AX J Am Soc Nephrol. 26(12), 2015, 3085-91

[6]. Disseminated intravascular coagulation complicating HELLP syndrome: perioperative management. Garg R, et al. BMJ Case Rep. 2009. All India Institute of Medical Sciences, New Delhi, India. BMJ Case Rep. 2009; 2009. pii: bcr10.2008, 1027. doi: 10.1136/bcr.10.2008.1027. Epub 17, 2009.

[7]. Disseminated intravascular coagulation in the HELLP syndrome: how much do we really know? Haram K1, Mortensen JH2, Mastrolia SA3,4, Erez O4. J Matern Fetal Neonatal Med. 30(7), 2017, 779-788. doi: 10.1080/14767058.2016.1189897. Epub 2016 *June* 8.

[8]. Disseminated intravascular coagulation (DIC) in pregnancy and the peri-partum period Marcel Levi* Department of Internal Medicine, Academic Medical Center, University of Amsterdam, The Netherlands. Thrombosis Research 123(2), 2009, S63–S64.

[9]. Preeclampsia and Eclampsia. Kristin H. Coppage, MD, Maternal fetal medicine fellow, department of obstetrics and gynecology, university of Cincinnati, Cincinnati, Ohio. Baha Sibai, MD, Professor and Chairman, department of obstetrics and gynecology, university of Cincinnati, Cincinnati, Ohio. Coppage, K, Sibai, B, *Glob. libr. women's med., (ISSN: 1756-2228)* 2008, DOI 10.3843/GLOWM.10158

[10]. Hypertensive retinopathy and pre-eclampsia. Tadin I, Bojić L, Mimica M, Karelović D, Dogas Z Coll Antropol. 25, 2001, 77-81.

How to cite this article: M. Devika Priyadarshini, P. Spandana Reddy, D. Rishitha Reddy. DIC with abruptio placenta, HELLP and Preeclampsia induced AKI-A case report. Int J of Allied Med Sci and Clin Res 2019; 7(2): 533-536.

Source of Support: Nil. **Conflict of Interest:** None declared.