

Review Article

A rare manifestation of a common disease: Very early severe preeclampsia in a low-risk patient

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Abstract

Background: Classical definition of preeclampsia is based on new onset hypertension and proteinuria presenting after 20 weeks gestation. Early preeclampsia is rare and carries considerable maternal and fetal risks.

Case: A healthy 40-year-old multipara presented at 17 weeks gestation with new onset hypertension and proteinuria. Workup revealed no underlying condition thus diagnosis of severe preeclampsia was established. Termination of pregnancy was performed followed by rapid maternal improvement, supporting our diagnosis.

Conclusion: This is the first report of severe preeclampsia prior to 20 weeks gestation in a patient without risk factors other than age. Earlier severe preeclampsia, though rare, should be considered in the differential diagnosis of new onset hypertension and proteinuria. Reports of such cases increase clinicians' awareness to the atypical presentation of this disorder.

Introduction

The classical definition of preeclampsia is based on new onset hypertension and proteinuria past 20 weeks gestation [1]. Preeclampsia occurring before 24 weeks is almost always associated with fetal demise and carries considerable maternal risks. Termination of pregnancy is therefore generally recommended in such cases [2-4].

We report a case of severe preeclampsia at 17 weeks gestation in a patient without risk factors for preeclampsia other than her age.

Case

A 40-year-old grand multiparous woman presented to our institution at 17 weeks gestation with severely elevated Blood pressure (BP) and new onset proteinuria. Her past medical history was unremarkable. The present pregnancy was her fifteenth and was uncomplicated until admission. Previous pregnancies, all with the same partner, included four early non-consecutive miscarriages and ten uneventful pregnancies without hypertensive disorders of pregnancy, small for gestational age infants, placental abruption or evidence of placental insufficiency.

She had no symptoms of preeclampsia upon admission other than elevated BP; her physical examination, including funduscopy, was normal. Initial workup included a complete blood count which showed mild anemia with no signs of hemolysis (Hemoglobin 10.6 g/dL), a normal platelet count, mildly elevated liver transaminases (AST 48 IU/L, ALT 76 IU/L), and normal creatinine. Twenty-four hour urine collection revealed severe proteinuria with an elevated urinary protein-to-creatinine ratio (UPCR) (Protein/urine 6465 mg/24h, UTPCR 6.93 mg/mg). An echocardiogram was normal.

Fetal ultrasonography examination during hospitalization showed a viable singleton pregnancy, biometry compatible with 16 weeks gestation, a mildly thickened placenta with few cystic findings, and

no evidence of placental abruption. Oral Methyldopa therapy was initiated and increased to the maximal daily dose. Oral Labetalol therapy was later added. Intravenous Hydralazine therapy was required on several separate occasions. Differential diagnosis included early severe preeclampsia or an underlying glomerular disease. Further workup included laboratory testing: urine analysis and biochemistry, blood coagulation, biochemistry and protein electrophoresis, and detailed immunology and serology testing, that were all normal except cryoglobulin testing that was initially positive, but showed only traces on repeated measurement. Renal ultrasound including Doppler of the renal veins was normal as well. These findings did not support a primary or secondary glomerular disease or a paraproteinemia as the cause of proteinuria in this patient. Amniocentesis revealed normal fetal karyotype.

Ten days after initial presentation, BP continued refractory to multidrug therapy and remained consistently elevated, at times to the severe range. Repeat laboratory testing revealed no evidence of HELLP syndrome. Renal biopsy was considered. However, given the lack of evidence for a renal disease and potential risks of a renal biopsy during pregnancy, the procedure was not performed.

In the absence of evidence of other etiology, the diagnosis of early severe preeclampsia was made, even though an extremely rare phenomenon before 20 weeks gestation. Termination of pregnancy was recommended and performed by Misoprostol and curettage.

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Table 1. Cases reported.

Study (year)	GA at presentation	Parity	Risk factors	Obstetric outcome	Maternal outcome
Brittain <i>et al.</i> (1995)	18		Partial molar pregnancy	TOP	
Asulyman <i>et al.</i> (1996)	17	1	APLA	MA at 18 weeks	
	19	2	APLA, Previous preeclampsia	IUFD at 20 weeks	Normotensive 1 year post evacuation
	17	2	APLA	MA at 18 weeks	Normotensive 8 months post evacuation
Nugent <i>et al.</i> (1996)	19	1	Twin pregnancy, Triploidy 69,XXY of one twin	TOP via Hysterotomy	Normotensive 4 days post termination
Rahimpanah <i>et al.</i> (2000)	17	1	New partner in index pregnancy, Triploidy 69,XXY	TOP at 17 weeks	Normotensive post termination
	17	3	Triploidy 69,XXY	TOP	
Craig <i>et al.</i> 2000	17	0	Triploidy 69,XXY	TOP	
Hazara <i>et al.</i> (2003)	18	2	AMA, Previous preeclampsia, new partner in index pregnancy	TOP at 19 weeks	Complete remission post termination
Imasawa <i>et al.</i> (2006)	15	0	AMA, Twin pregnancy	TOP at 18 weeks	Normotensive and resolution of proteinuria at 3 weeks and 3 months post termination, respectively
Thomas <i>et al.</i> (2012)	16	3	AMA, CHTN, Previous preeclampsia and gestational HTN	TOP at 23 weeks	Normotensive 14 weeks post-termination

A normal appearing male fetus was delivered. Pathology examination or genetic testing was refused on religious grounds. Pathology examination of the placenta revealed severe degenerative changes in chorionic villi and fibrinoid necrosis in the decidua. Maternal condition improved significantly and rapidly. On post-operative day five she was discharged home with oral antihypertensive therapy: Ramipril 5mg and Bisoprolol 2.5 mg once daily. Urinary protein excretion as assessed by UPCR was 0.482 mg/mg, 0.075 mg/mg and 0.091 mg/mg at 7, 37, and 60 days post discharge, respectively (correlating to approximately 480, 75 and 91 mg of 24 hour urinary protein excretion, respectively). BP normalized rapidly and all antihypertensive therapy was discontinued by post discharge day 10. During 3 months of follow up all BP measurements were normal.

Comment

New onset hypertension with proteinuria prior to 20 weeks gestation pose a diagnostic and therapeutic challenge, as the traditional definition of preeclampsia, recently revised, includes new onset hypertension and proteinuria or defined systemic signs, first manifesting after 20 weeks gestation [1]. Early severe preeclampsia is a rare condition associated with adverse maternal and fetal outcomes. It is almost always associated with fetal demise and carries considerable maternal risks such as eclampsia, hepatocellular injury, placental abruption, pulmonary edema, renal failure, coagulopathy, cerebrovascular accident, and even death. In one of the largest studies assessing the benefits and risks of expectant management of early severe preeclampsia at less than 26 weeks, 43% of participants (22/53) had at least one major maternal complication. There were no perinatal survivors in those diagnosed at less than 24 weeks (0/12 women) [2]. Termination of pregnancy is therefore generally recommended in cases suspected of very early severe preeclampsia [2-4]. As these cases are extremely rare, the diagnosis may be facilitated by the presence of risk factors such as chronic hypertension, multifetal pregnancy, prior pregnancy complicated by preeclampsia, or a new partner [5-6]. To date, very few cases have been reported in the medical literature on early severe preeclampsia prior to 20 weeks gestation. Out of the eleven cases reported (Table 1), only three were isolated and eight were associated with either partial mole, triploidy, or antiphospholipid antibody syndrome. Furthermore, even the three “pure” cases had risk

factors for preeclampsia; all women were of advanced maternal age, one had a twin pregnancy, the second had history of prior preeclampsia and a new partner in the index pregnancy, and the third had a history of chronic hypertension and prior pregnancies complicated by early onset preeclampsia [7-9]. The current case is unique as we diagnosed severe preeclampsia at less than 20 weeks in a healthy multiparous woman without medical risk factors for preeclampsia, aside from her age. The patient underwent extensive workup that did not reveal any other causes for her condition. The rapid clinical improvement in both BP and proteinuria following termination of pregnancy further supports the diagnosis of preeclampsia.

In conclusion, severe preeclampsia at less than 20 weeks, though extremely rare, should always be considered in the differential diagnosis of new onset hypertension and proteinuria in early pregnancy. Reports of such cases should increase clinicians’ awareness of the atypical presentation of this dangerous disorder.

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