

Title: Role of pulse plethysmograph in the prediction of hypotension and prevention of PPH in high risk cases during caesarean section.



Introduction

Hypotension during cesarean sections is common and may lead to Postpartum hemorrhage . Beforehand prediction of hemodynamic factors can help in decreasing the rate of complications. Plethysmography waveforms can help in effective assessment of perfusion dynamics and vascular tone.

Aims & Objectives

To see the role of pulse plethysmograph in the prediction of hypotension and in the assessment of perfusion hemodynamics and its management accordingly.

Material & methods

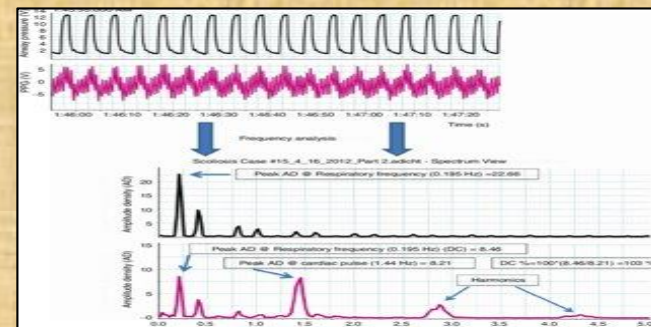
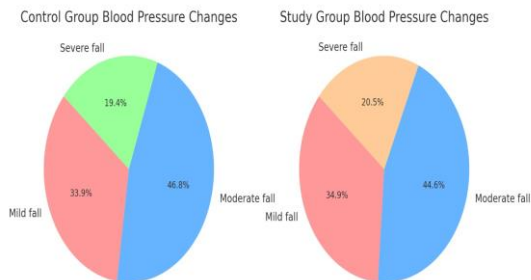
200 patients undergoing emergency or elective caesarean section, 100 women were taken as control & 100 as cases.

Hypotension managed by IV fluid and vasopressors

Vascular tone	Vasoconstriction		Normal	Vasodilation		
	severe	moderate		slight	moderate	severe
PPG waveform shape						
Amplitude	↓↓↓	↓↓	=	↑	↑↑	↑↑↑
Notch position	↑↑↑	↑↑	=	↓	↓↓	↓↓↓
RI	↑↑↑	↑↑	=	↓	↓↓	↓↓↓
PI	↓↓↓	↓↓	=	↑	↑↑	↑↑↑
SI	↓↓↓	↓↓	=	↑	↑↑	↑↑↑



Results & Discussion



conclusion

Readings of the pulse plethysmograph gives a good prediction of hypotension with assessment of perfusion dynamics and vascular tone and hence can be a useful tool to guide the management accordingly.

References

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- Awad AA, Haddadin AS, Tantawy H, et al. The relationship between the photoplethysmographic waveform and systemic vascular resistance. J Clin Monit Comput 2007; 21: 365-72.
- Moneta GL, Wheeler N, Giswold ME. Vascular laboratory evaluation of lower extremity arterial occlusive disease. In: Hallett JW, Mills JL, Earnshaw JJ, et al.

ROC showed the changes in contour and dicrotic notch variations in pulse plethysmograph was good for prediction of hypotension in both the groups.

Significant association was observed between grades of SBP and width of PPG (P<0.05).