

Atypical Eclampsia Triggered by IV Iron in Iron Deficiency Anemia: Case Report



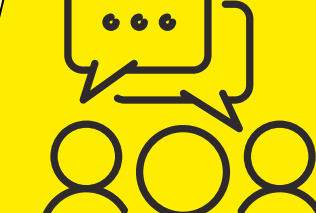
Background & Objective

This is the first known case in Malaysia, over three decades of clinical practice, where intravenous (IV) iron administration appears to have triggered eclampsia in a patient without any predisposing factors. The case underscores an atypical manifestation of eclampsia, presenting without typical features of preeclampsia such as hypertension or proteinuria, thereby complicating its recognition and management.



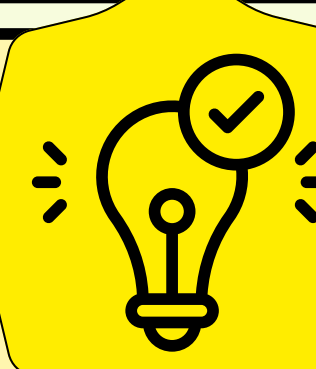
Case Report

A woman of Malaysian origin aged 38 years old come to our clinic for IV iron treatment on iron deficiency anemia (IDA). She is pregnant with gravida 5 parity 4 at 36 weeks of gestations. Her antenatal problems were unrelated with risk of eclampsia. Otherwise, she did not have any history of pre-eclampsia or eclampsia. During her follow up, her haemoglobin was normal until at 36 weeks gestation was drop from 11.1g/dL to 9.8 g/dL with characteristic of microcytic hypochromic and low serum ferritin which suggestive of IDA because of poor compliance to diet and medication. The decision together with patient for parenteral iron therapy.



Discussion

- IV iron therapy is known to correct IDA more rapidly and with fewer side effects compared to oral iron.¹
- Despite no prior history or risk factors for eclampsia, hypertensive episodes post-infusion raised clinical suspicion in this case.
- Certain iron formulations may trigger immune responses, even in individuals without previous exposure, possibly due to cross-reactivity with existing polysaccharide antibodies.²
- Though rare, hypertensive anaphylaxis has been documented in medical literature, especially in younger patients.
- This condition is marked by an early vasopressor response, resulting in elevated blood pressure rather than the classic hypotension seen in typical anaphylaxis.²
- The reaction reflects compensatory vasopressor mechanisms that influence hemodynamics during anaphylaxis.³
- In this case, symptoms occurred within minutes after the first parenteral iron dose, suggesting a drug-induced anaphylactic reaction leading to hypertensive crisis and possible eclampsia mimic.



Conclusions

Clinicians must remain vigilant when administering IV iron in primary care settings, given the potential for severe complications. Early recognition and prompt intervention, including magnesium sulphate administration, are paramount. Further studies needed to explore the underlying mechanisms linking parenteral iron to hypertensive crises and eclampsia, guiding preventive strategies and safer clinical practice.

References

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3. Reber LL, Hernandez JD, Galli SJ. The pathophysiology of anaphylaxis. J Allergy Clin Immunol. 2017;140(2):335–48.

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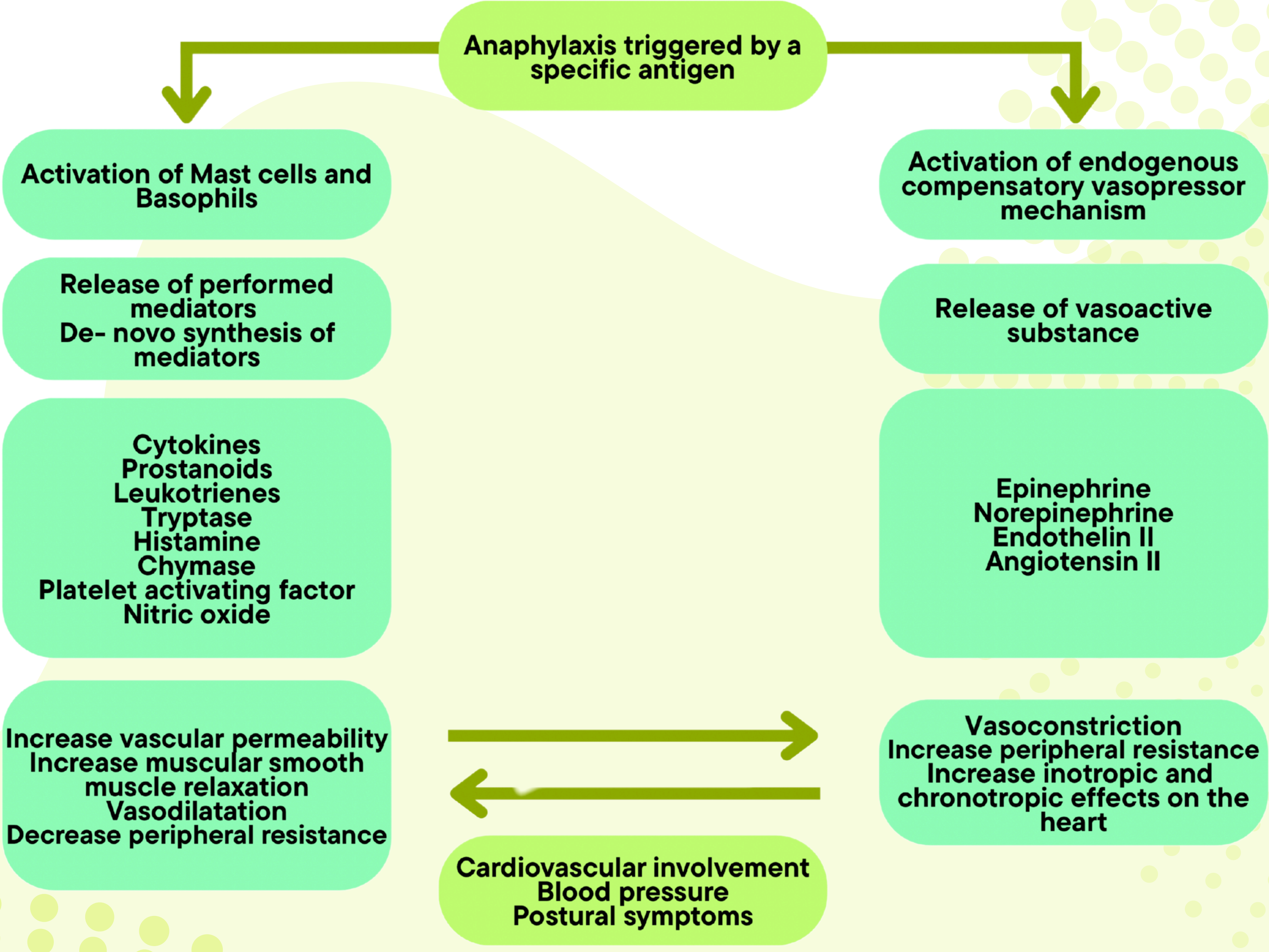


Figure 2: The mechanisms that are activated with triggering of anaphylaxis on blood pressure of a patient.

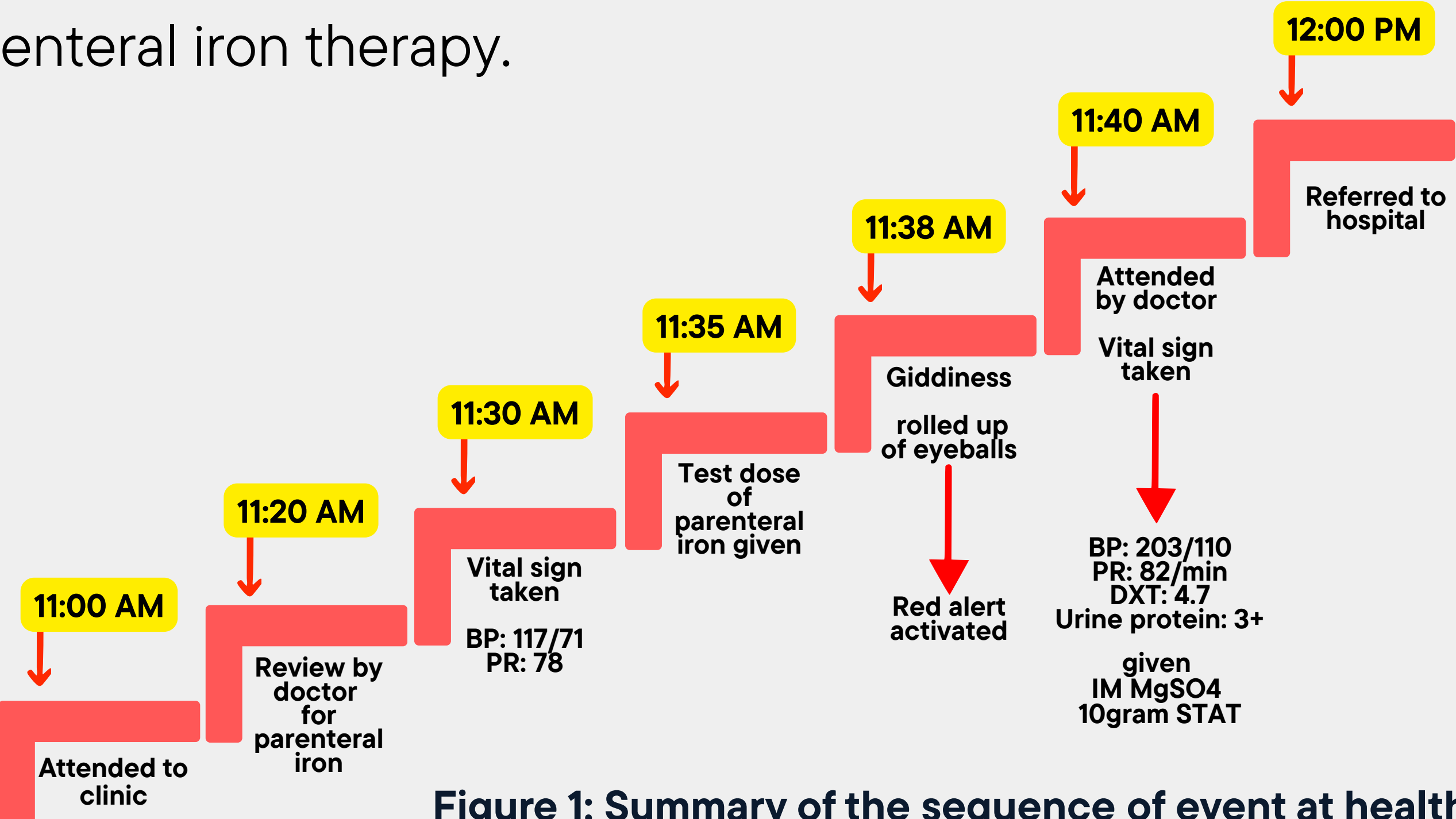


Figure 1: Summary of the sequence of event at health clinic.