



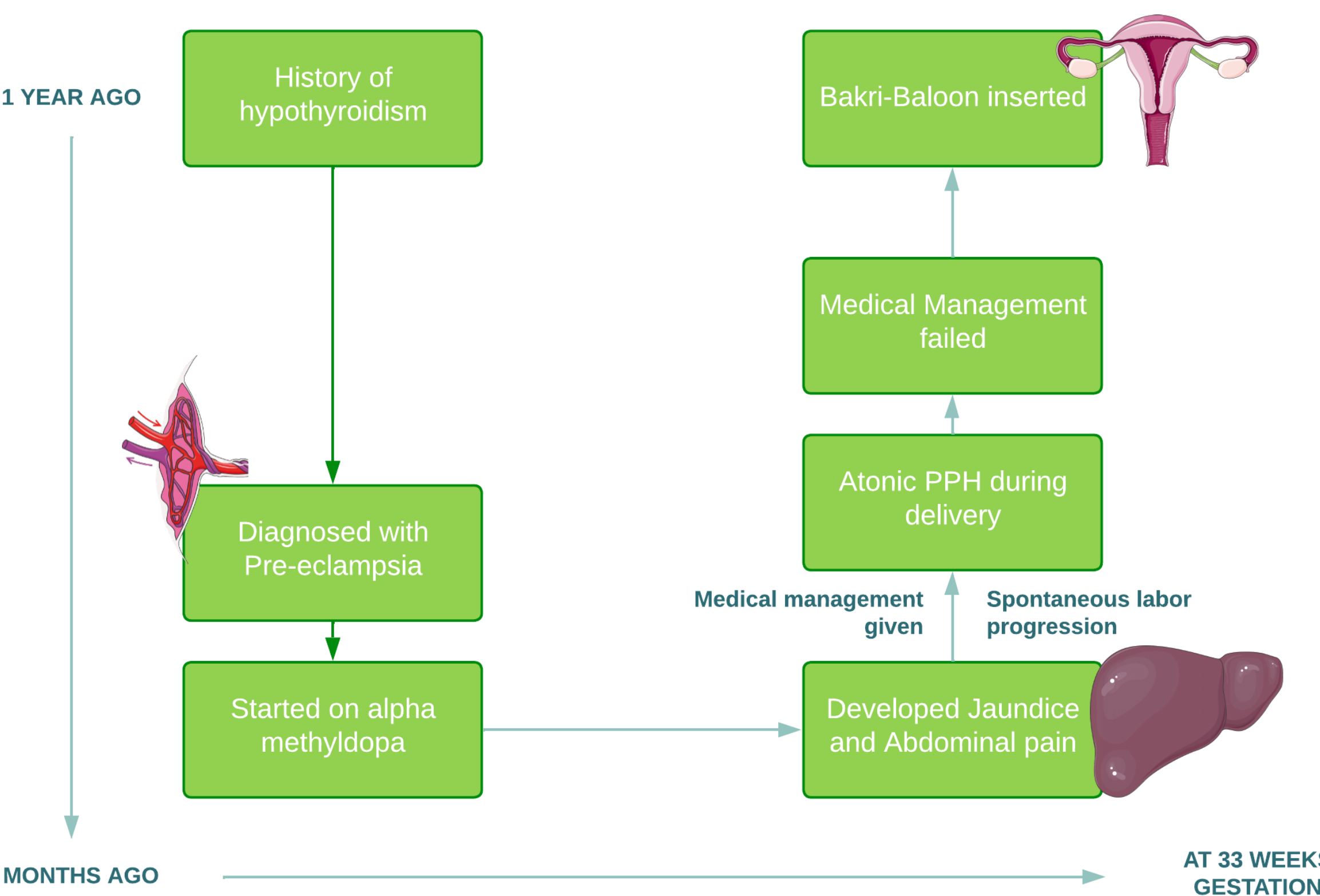
Bakri Balloon: An Adjunct in Emergency Public Health- A Case Report

Prerna Kherajani, Vidhi Vora, Krish Kherajani, Pratik Agarwal

OBJECTIVE

- More than 2/3rds of reported maternal haemorrhage deaths are due to postpartum haemorrhage(PPH).
- In low resource public health settings of countries such as India, a condom-UBT(Uterine Balloon Tamponade) is preferred for refractory atonic PPH due to the **cost-effectiveness** based on the DALYs averted.
- However, the Bakri balloon carries an advantage of proper **conformability, blood loss monitoring, sterility, easy insertion and low slip-out rates**. We present a case of a woman with refractory PPH managed with Bakri balloon UBT.

Figure 1: Timeline



CASE REPORT

- The patient is a 24 year old primigravid female at 33 weeks of pregnancy.
- She was a **known case of pre-eclampsia** on Tab. Alpha-methyldopa for the same.
- She presented to the hospital with **active preterm labour** and a **history of jaundice and abdominal pain for 15-20 days**.
- On examination, the patient was pallid and icteric with a BP of **80/50mmHg** and active per vaginal bleeding. Investigations showed a raised bilirubin and hepatic enzymes. Her blood count showed an increased WBC count(12,400 cumm) and decreased platelets(57,00 cumm) along with a raised PT/INR(23/2.25). Figure 2 shows the patient’s detailed hematological investigations.
- Post imaging, a diagnosis of **Acute Fatty Liver of Pregnancy** was made.
- The patient was given 12mg Betamethasone, 4 units of FFP and monitored for spontaneous labour progression.
- The patient went into **atonic PPH** after delivery. An initial medical management including Inj. Oxytocin, Tab. Misoprostol and Inj. Carboprost was ineffective in controlling the haemorrhage. A **Bakri balloon** was inserted as a modality for balloon tamponade to the atonic uterus. The patient’s condition improved and the PPH was under control.

Figure 2: Investigations

Lab Parameter	Value (On Admission)	Lab Parameter	Value (15 days later)
Hb	10.8gm/dl	Hb	11gm/dl
Platelets	57,000/cumm	Platelets	1,70,000/cumm
WBC	12,400/cumm	WBCs	6,600/cumm
PT/INR	25/2.25	PT/INR	11.5/1.1
Fibrinogen	176 mg/dl	Fibrinogen	200mg/dl
Serum Bilirubin	17 mg/dl	Serum Bilirubin	6mg/dL
Serum AST	108 U/L	Serum AST	40 U/L
Serum ALT	204 U/L	Serum ALT	54 U/L
Serum Creatinine	1.8 mg/dl	Serum Creatinine	0.8 mg/dl
HHH	Negative	HHH	Negative
HBsAg	Negative	HBsAG	Negative
HEV	Negative	HEV	Negative

DISCUSSION

- The case reports the use of Bakri balloon tamponade in a low resource country setting to manage refractory atonic PPH. It points to an effective use-case in situations where the patient has experienced significant blood loss and a dependable tamponade device is required to prevent maternal mortality.

CONCLUSION

- We advocate the use of Bakri balloons in a low resource public health setting in scenarios where a definite stoppage of refractory PPH has to be achieved using tamponade.
- This will not be possible unless a **definite amount of these devices are maintained** at these setups for such scenarios.

TAKE HOME MESSAGE

- Our research paves way for further literature and decisions into policy making to include Bakri balloon; not as a replacement to the ongoing cheaper alternatives, but as an adjunct in critical therapy of the patients.

REFERENCES

- Parts of the figure were drawn by using pictures from Servier Medical Art. Servier Medical Art by Servier is licensed under a Creative Commons Attribution 3.0 Unported License (<https://creativecommons.org/licenses/by/3.0/>).
- Wang Y, Xiao C, Zhang N, Sun G. Performance of Bakri balloon tamponade in controlling postpartum hemorrhage. Am J Transl Res. 2023 Mar 15;15(3):2268-2279. PMID: 37056856; PMCID: PMC10086883.