Trauma in Pregnancy : Diversifying Obstetric Retrieval Service in Sabah

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ABSTRACT

The Obstetric and Gynaecological Retrieval Service in West Coast Sabah has been well-established since year 2015, parallel to the global advancement of Emergency Retrieval Service. The decision to transfer a patient or to deploy team to the patient lies in the hands of Retrieval Unit. Additionally the mode of transportation, surgeon availability, weather and travel time have to be taken into account. Even though the structure of the program is steadfast in diversifying retrieval services, there are still insufficient studies available to decide it's worth. We report a case of a 19-year old primigravida at 27 weeks; involved in a high-impact motor vehicle accident and sustained class 4 hemorrhagic shock. Evaluated in a district hospital, uterine rupture was diagnosed. Hence, the dilemma was either to deploy a team to perform the surgery in district hospital, or to put the patient through a perilous journey back. We would discuss on how we had organised and coordinated a team of obstetrician and anaesthesiologist, along with the Retrieval Team, to perform an Emergency Exploratory Laparotomy in district hospital. Nevertheless, the best method of care is still debatable as astute judgement is crucial and this approach has to be taken on a case to case basis. Ultimately, the patient's well-being is the utmost priority.

INTRODUCTION

- Trauma continues to be the leading non obstetrical cause of maternal death.⁽¹⁾ It happens in 5% to 7% of all pregnancies. ^(2,3)
- In West Coast Sabah, Sabah Women and Children Hospital (SWACH) is the one and only tertiary hospital that function as satellite to provide acute obstetric services. Activation of O&G retrieval was integrated into the PHC system in SWACH since August 2015 ⁽⁴⁾
- This retrieval service is a joint effort between pre hospital care team and O&G team due to limitations in district hospital.
- Statistically, we respond to xxx (%) of post party hemorrhage and, xxxx (%) eclampsia cases , etc
- This is our maiden trauma in pregnancy retrieval case that cast a challenge for us. Therefore, we elaborate the challenges and reasoning behind every decision.

CASE REPORT

CASE CHRONOLOGY

DISCUSSION

- This report focuses on retrieval of patients and factors that could affect the prognosis of the patient. Many challenges were faced during this retrieval.
- We would break down the major decisions made and discuss them in the tables below.

Clinical Decision

	DEPLOY RETRIEVAL TEAM TO DISTRICT	RETRIEVE PATIENT TO SWACH
EQUIPMENTS	Lack of facilities	Well equipped operating theatre
SPECIALITIES	No consultants / specialist	Multiple specialities
WORKFORCE	Limited	More supporting staff

Table 1 : Differences between Hospital Pitas and SWACH

Conclusion : Even though the best course of action is to retrieve the patient back to SWACH, she is hemodynamically unstable. Transferring her without surgical intervention would increase the risk of further deterioration during the transfer. Therefore, at that point, deploying a team to Hospital Pitas seemed to be the better option.

Platform Decision

AIR TRANSPORT		LAND TRANSPORT	
Pros	Cons	Pros	Cons
Reduces out-of-hospital transport time	Inability to fly during extreme weather conditions	Rapid mobilization	Traffic and road condition might delay the transfer
Suitable for long distance	The need for a dedicated landing site	Door-to-door transport	Slower on long distance
Greater manoeuvrability	Requires highly trained personnels	Less dependant of weather	
	Changes in air pressure may affect patient's condition and medical equipments		

Table 2 : Pros and cons of air transport and land transport

Conclusion : In this case, aeromedical transfer is the better option as time is crucial and the distance to the hospital. However it not feasible due to the weather condition. ⁽⁵⁾ Therefore, the only available mode of transportation is through land transfer.

Challenges

PROBLEM	SOLUTION
No specialist available to assess severity of patient	A O&G specialist deployed along with ERU team
No anaesthesiologist available in district	A senior anaesthesiologist deployed from SWACH
Lack of blood products	Blood products from SWACH was brought along
Insufficient surgical equipments in Hospital Pitas	Hysterectomy set was brought along

Table 3 : Challenges faced and the solutions

- Every possible issue that might arise was anticipated prior to deploying the retrieval unit. Decisions were made according to availability of facilities and staffs.

Figure 1: Map showing distance from SWACH to Hospital Pitas

Figure 2 : The retrieval team after the emergency exploratory laparotomy

CONCLUSION

A number of thought process will have to occur simultaneously prior to retrieval of patient. Every case is different and has to be evaluated independently, prior to making the decision whether to deploy a team to the scene or to retrieve the patient as there is no one-thumb rule.

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