

TRACHEOESOPHAGEAL FISTULA IN DISTRICT HOSPITAL; HOW WE DO IT DURING COVID ERA?

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Introduction

Tawau is one of the farthest districts in Malaysia located at the Island of Borneo. It's municipality is 6,125 km² made it the third largest city in Sabah with its population around 300 000 residents¹. Tracheoesophageal fistula (TOF) is one out of few life-threatening congenital abnormalities that occasionally occur in Tawau. Live in district, all surgical related disease is managed by general surgery in view of lacking subspecialist services. This is also a common practise by the general surgeon among developing countries².

Case Summary

Malaysia was hit by Covid-19 pandemic from year 2020 till early 2022, and Tawau was severely affected too. During this period, there were 2 cases of new-born with TOF referred to us for evaluation and optimization before transferring to the only Women and Child Hospital Sabah (HWKKS) which located in Kota Kinabalu. Both cases were co-managed with Paediatric team Hospital Tawau.

The first new-born was initially treated as PUI (person under investigation) as her mother was infected with Covid-19, and eventually the result was negative. She was kept under our supervision for almost 3 weeks before transferring to HWKKS. Continuous suction using modified Replogle tube was done, along with administration of prophylaxis antibiotic and total parenteral nutrition.

Another new-born was presented to us at day 2 of life for feeding intolerance with post prandial vomiting. The child was referred to us after failed serial insertion of Ryles tube at Emergency Department.

Unfortunately, both cases passed away. The first case succumbed at HWKKS due to post-operative complication while the other case passed away on the next day of admission due to aspiration pneumonia.

Discussion

Early detection and referral for definitive intervention of the TOF patients may increase the survival rate^{3,4,5}. In addition, a good neonatal care^{2,3} able to provide well preoperative preparation which may determine the overall post-operative outcome.

The preoperative measures include continuous suction can prevent gastroesophageal reflux, and aspiration pneumonia. In district hospital setting, some modification using small neonate Ryle's tube can be used to imitate the function of the original Replogle tube. An early administration of prophylaxis broad spectrum antibiotic^{3,4} may delay and prevent the occurrence of pneumonia.

Adequate nutrition support play a vital role in managing TOF patient. This can be achieved by parenteral nutrition which help in increasing the patient's weight, enhancing immune system and aid in wound healing post operatively⁶.

Once patient already stabilized, early transfer to Paediatric Surgery facility for definitive surgery also play role in patient's survival^{2,3,4,7}.

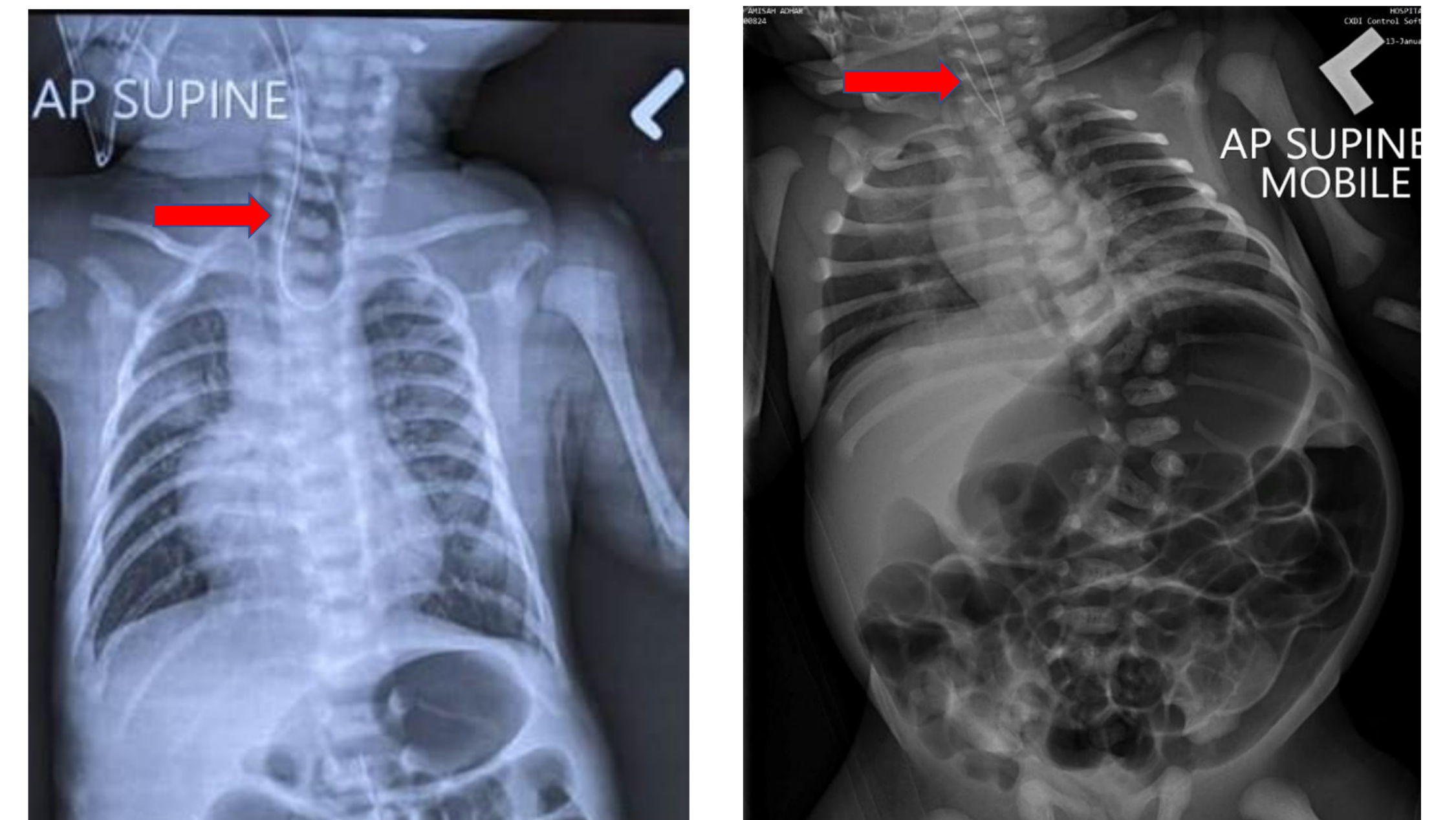


Image 1a & 1b: Coiling of Ryle's tube (arrow) is pathognomonic TOF

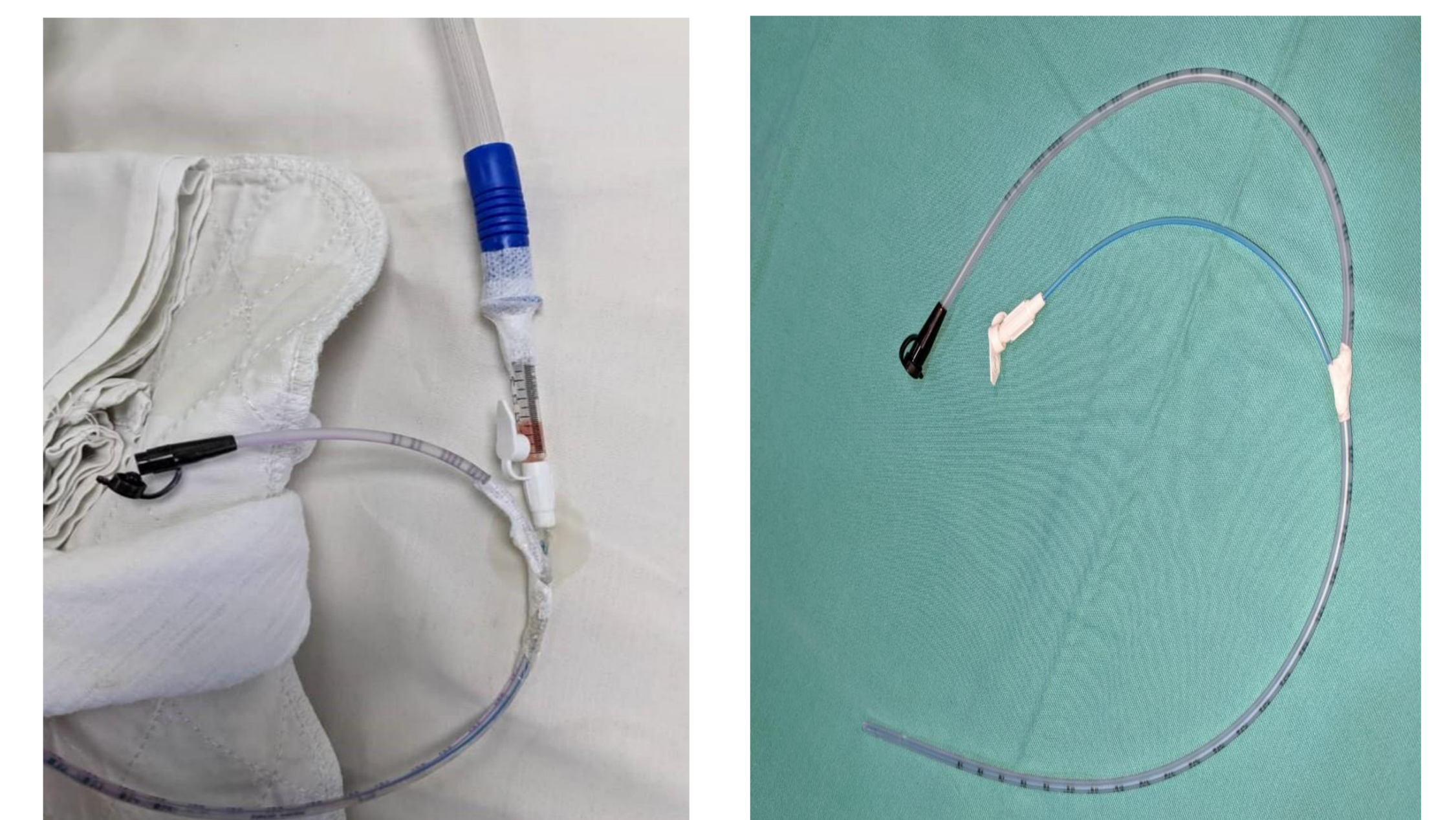


Image 2a & 2b: A modified Replogle tube used in both patient, using small neonate Ryle's tube size 10Fr and 5Fr

Conclusion

TOF is a life-threatening condition that require immediate referral to surgical personnel for further evaluation. Early life saving intervention like prevention of aspiration and early transfer to Paediatric Surgery facility may improve patient's survival.

References

1. Tawau Population https://www.citypopulation.de/en/malaysia/admin/sabah/1201_tawau/
2. Ameh, E., Dogo, P. & Nmadu, P. Emergency neonatal surgery in a developing country. *Pediatr Surg Int* 17, 448–451 (2001).
3. Pinheiro PF, Simões e Silva AC, Pereira RM. Current knowledge on esophageal atresia. *World J Gastroenterol.* 2012;18(28):3662-3672.
4. Al-Salem AH, Tayeb M, Khogair S, et al. Esophageal atresia with or without tracheoesophageal fistula: success and failure in 94 cases. *Ann Saudi Med.* 2006;26(2):116-119.
5. Karakus, Suleyman Cuneyt, et al. "Delayed diagnosis: An important prognostic factor for oesophageal atresia in developing countries." *Journal of Paediatrics and Child Health* 52.12 (2016): 1090-1094.
6. Lal DR, Gadepalli SK, Downard CD, Ostlie DJ, Minneci PC, Swedler RM, Chelius T, Cassidy L, Rapp CT, Deans KJ, Fallat ME, Finnell SME, Helmtrath MA, Hirschl RB, Kabre RS, Leys CM, Mak G, Raque J, Rescorla FJ, Saito JM, St Peter SD, von Allmen D, Warner BW, Sato TT; Midwest Pediatric Surgery Consortium. Perioperative management and outcomes of esophageal atresia and tracheoesophageal fistula. *J Pediatr Surg.* 2017 Aug;52(8):1245-1251.
7. Taguchi, T. (2008). Current progress in neonatal surgery. *Surgery Today*, 38(5), 379-389.