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Mini Review

Management of Esophageal Atresia: our Sub-Saharan Experience about 2 Surviving Cases

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Abstract

Esophageal atresia is a congenital malformation incompatible with life due to the inability to eat on the one hand but also to tracheobronchial flooding.

Keywords: laryngectomy; tracheoesophageal fistula; voice disorders; speech therapy

Introduction

Esophageal atresia is a congenital malformation incompatible with life due to the impossibility of eating on the one hand but also of tracheobronchial flooding. Its morbidity and mortality has clearly improved in developed countries but is still very high in Africa.

Our study reports the observations of the first two cases out of ten, having survived the surgical treatment of this pathology at the Mother-Child Foundation Jeanne Ebori University Hospital in Libreville over a period of 2 years, as well as the means highlighted to achieve this.

Observation 1

BB N. Newborn born at the end of 40 weeks +2 days, vaginally, from a pregnancy having benefited from 5 prenatal consultations and weighing 3280g. The first minute apgar was 10/10. He was treated for a maternal-fetal infection with a fever at birth of 39.8°C. He was then transferred to D7 of life in front of the diagnostic suspicion in our structure.

The admission examination found:

Dehydration, hypersialorrhoea, jaundice and rales of bronchial congestion.

The thoraco-abdominal X-ray revealed the nasogastric tube in the proximal esophageal cul-de-sac with digestive aeration suggesting an esophageal-tracheal fistula.

Management consisted of hospitalization, conditioning, dorsal decubitus in prone position and continuous suctioning.

First-line antibiotic therapy (cefotaxime, gentamicin, metronidazole), basic intakes with SG10% enriched in electrolytes. No associated malformations were found on ultrasound scans

He was operated on D8 of life. The cure consisted of an end-to-end anastomosis with closure of the tracheal fistula and verification of the seal, after right antero-lateral thoracotomy and an extra-pleural approach. A trans-anastomotic nasogastric tube and a chest tube were placed. The patient was extubated on the operating table while breathing spontaneously.

The diagnosis of type III esophageal atresia was confirmed intraoperatively. In the immediate postoperative period, the patient was put on second-line antibiotic therapy (ceftazidine, vancomycin and metronidazole) with parenteral nutrition with Kabivein*, adapting the intake to the weight of the child.

The chest drain and the nasogastric tube were removed on D6 postoperatively.

Postoperative follow-up was marked on D6 postoperatively by suppuration of the wall with a CRP of 181ng/l treated with daily local care with Dakin and the replacement of ceftazidine by imipenem. The TOGD performed on day 7 postoperatively confirmed esophageal continuity and allowed the start of enteral feeding.

On D8 postoperative, the onset of fever and abdominal distension with collateral venous circulation had suspended enteral feeding until the resumption of transit 48 hours later.

He also received a blood transfusion for an anemia at 8.6g/dl.

On postoperative day 10, the wound was clean, and bacteriological examination of the pus had found Enterobacter sensitive to ciprofloxacin.

The patient was discharged on D29 postoperative and D30 of hospitalization.

The follow-up at 18 months was normal.

Observation 2

BB L. was born in 40 SA, with a weight of 3425g. He was transferred from a Regional Hospital Center for suspected esophageal atresia on D6 of life. He was born vaginally at the end of an unmonitored pregnancy with an Apgar at 7/10 and tinted amniotic fluid.

The examination on admission found:

Respiratory distress with hypersialorrhoea, bronchial congestion, and crackles in both lung fields.

The thoraco-abdominal X-ray revealed the nasogastric tube wound in the proximal esophageal cul-de-sac with digestive aeration in favor of an eso-tracheal fistula. No associated malformations were found on cardiac, abdominal and trans-frontanellar ultrasound.

Management consisted of conditioning; supine position, in prone position with continuous aspiration of the esophageal cul-de-sac.

First-line antibiotic therapy (cefotaxime, gentamycin, metronidazole) and basic intakes with SG10% enriched with electrolytes.

He was operated on D8 of life (i.e. 48 hours after his admission). The intraoperative diagnosis confirmed type III esophageal atresia. The cure consisted of an end-to-end anastomosis with closure of the fistula after a right antero-lateral and extra-pleural thoracic approach. Verification of tracheal tightness was made, a trans-anastomotic naso-gastric tube and a thoracic drain were put in place. The patient was extubated on the operating table while breathing spontaneously.

In the immediate postoperative period, the patient was put on second-line antibiotic therapy (ceftazidine, vancomycin, metronidazole) and parenteral nutrition. The trans-anastomotic nasogastric tube was accidentally torn out post-operative H3). Biological assessment was normal on postoperative day 2.

On D3, the symptomatology was marked by abundant hypersialorrhoea and bronchial congestion. The chest X-ray performed revealed right pulmonary atelectasis (photo). The treatment then consisted of placement in left lateral decubitus and physiotherapy with normal radiographic control after 48 hours.

A TOGD was done on D13 post-operative highlighting an esophageal stenosis. (X-ray)

Twenty-two days after the first intervention, the patient was taken back to the operating room for a thoracotomy after the failure of an attempt at dilation. It was a complete esophageal stricture.

In the immediate postoperative period, he was put on imipenem and fed parenterally, then on D3 postoperatively by the trans-anastomotic tube.

The thoracic tube was removed on day 4 postoperatively.

The control TOGD performed on day 7 postoperatively was normal. Three days after D38 of hospitalization, the patient is authorized to be discharged. The follow-up at one year was normal.

Discussion

Esophageal atresia is an emergency whose prognosis depends on the precocity of the management and therefore of the diagnosis. In developed countries, antenatal diagnosis is performed at least once in two [1]. In Africa the antenatal diagnosis is rarely made, this is the case for the studies of Mouafo et al [2] in Cameroon, Mbaye et al. [3] in Senegal, Mohamed Benkirane in Morocco and Bouguermouh in Algeria. A polyhydramnios is found in a few cases, but the lack of knowledge of the malformative pathology in the ultrasound follow-up of parturients explains the fact that this does not lead to in-depth investigations for the diagnosis.

For our two patients, the antenatal diagnosis was not carried out either.

This condition being unknown is therefore neither systematically sought in the antenatal period (polyhydramnios, pouch sign on ultrasound, etc.), nor in the delivery room where the systematization of the test of the nasogastric tube formerly required seems to have retreated. This explains the late diagnostic delay of 6 days which is ours. It is also in Treichville [4] i.e. 6.6 days and in Yaoundé [2]. These births took place in a hospital setting.

Neither of the 2 patients was born in our structure. In Marrakech [5] 74% of their patients were outborn. Type III esophageal atresia is the most common. Bouguermouh D and coll [6] and Ben kirane and coll [5] respectively found 67% and 74% of type III.

The malformative assessment did not objectivize any anomalies.

Al-Salam AH et al [7] in Saudi Arabia found 50% associated malformations, 49% of which were of cardiac origin; Tandon et al [8] in India also found these same comorbidities. Harifetra et al [9] in Madagascar did not carry out a malformative assessment due to its unavailability.

We performed extra pleural right thoracotomies. Tandon et al [8] also used this therapeutic approach for the majority of their patients. They also benefited from parenteral nutrition in the immediate postoperative period.

The response time for our patients was 8 days.

The intervention times in the Mouafo [3] and Mbaye [4] studies were 4.8 and 5.7 days respectively; these times are longer in most African studies. Ehua [4] found long intervention times of 11 and 15 days in his two survivors and also resorted to off-label parenteral nutrition in the absence of neonatal parenteral nutrition available. Although the literature describes a short time for intervention as a factor of good prognosis, the survivors in our study and even more in the study of Ehua have a long time for intervention and in general in the African studies are operated late [2 .3.6]. If the absence of antenatal diagnosis and late diagnosis do not allow early surgical management, the extension of the intervention time has also made it possible to treat aspiration pneumopathy by continuous aspiration and incisor antibiotic therapy, and restore the hydro-electrolyte balance. This preoperative resuscitation improves the prognostic classification of these patients, especially in our study from class B to class A of Wastson.

It would perhaps be wise in our African context not to rush before these cases but to take the time to stabilize the vital functions of these patients to improve their chances of survival and proceed to their malformation assessment. This peri-operative resuscitation probably improved the survival of our patients, especially the second, despite surgical revision 22 days after the first intervention. Our patients were extubated on the operating table in spontaneous breathing and immediately put on triple broad-spectrum antibiotic therapy. In fact, sepsis and mediastinitis, along with anastomotic leaks and after associated heart defects, constitute the mortality factors found in most studies.

The survival of 2 of our patients with a follow-up of one and a half years shows that it is possible to successfully manage this condition in our country.

Conclusion

Esophageal atresia is a pathology whose mortality remains high. It is an obsession for pediatric surgeons in developing countries. However, late management did not affect the vital prognosis of our patients. A powerful and broad antibiotic therapy as well as an adapted parenteral diet (adult

without inherent complications so far) were the strengths of the postoperative resuscitation of these patients.

References

1- C. Garabedian P, Vaast J, Bigot R, Sfeir L, Michaud F, Gttrand P, Verpillat C, CoulonD, Subtil V, Houfflin D. (2014) Atrésie de l'œsophage : prévalence, diagnostic anténatal et pronostic. Journal de Gynécologie Obstétrique et Biologie de la Reproduction Volume 43, Issue 6, Pages 424

2- Mouafo Tambo FF, Ngo Nonga B, Andze OG, Chiabi A, Mikande Ze J, Ngowe MN, Gonsus FJ, Sosso MA. (2010) Problématique de la prise en charge de l'atrésie de l'œsophage en pays sous médicalisés. Mali Med. 25(4): 36-38.

3- Mbaye F, Alassane Mbaye P, Haingonirina J.H,Welle I.B,Balla. Lo F, Mour Traore M, Diop M, Ndour O, Ngom G. (2015) Oesophageal atresia: Diagnosis and prognosis in Dakar, Senegal.African journal of paediatric surgery, 12(3) :187-190

4- Ehua, A.M., Moulot, M.O., Ango, P.D., Agbara, K.S., Konan, J.-M., Traore, I., Grah, L.F., Boulleys, R., Haidara, A., Ekobo, P.-C. (2018) and Bankole, S.R. Surgical and Anaesthesiology Management of Esophageal Atresia: What Are the Mortality Factors in a Developing Country. Surgical Science. 9: 496-501.

5- Mohamed benkirane prise en charge de l'atrésie de loesophage en réa pédiatrque au CHU de marrakech these n° 184 09/10/20.

6- Bouguermouh D, Salem A. (2014) Esophageal atresia: a critical review of management at a single center in Algeria. Dis Esophagus. 28(3): 205-210.

7- Al-Salam AH, Tayeb M, Khogair S, Roy A, Al-Jishi N, Alseman K et al. (2006) Oesophageal atresia with or without tracheoesophageal fistula: success and failure in 94 cases. Ann Saudi Med 26: 116-119

8- R.K. Tandon, Satendra Sharma, Shandip K. Sinha, Kumar Abdul Rashid, Ravi Dube, S. N. Kureel, Ashish Wakhlu, J.D. Rawat (2008). Oesophageal atresia : Factors influencing survival-Experience at an Indian tertiary centre, Journal of indian association of paediatric surgeons.xx 13(1) :2-6

9- Harifetra Mamy Richard Randriamizao,Aurelia Rakotondrainibe,Nadia Marie Philibertine Rahanitriniaina, Andriambelo TovoheryRajaonera, Mamy Lalatiana Andriamanarivo. Prise en charge péri-opératoire de l'atrésie de l'œsophage: petits pas non négligeables à Madagascar. The Pan African Medical Journal Pan African Medical Journal. 2017; 27:9

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