CASE REPORT

ENDOSCOPIC TRANS-NASAL CHOANOTOMY: A CASE SERIES

KOLO ES

ABSTRACT

Choanal atresia is a rare congenital failure of communication of the nasal cavity and the nasopharynx. The technique for the surgical repair of choanal atresia has evolved from the blind transnasal puncture to the currently favored endoscopic transnasal approach. This study aims at assessing the technique of endoscopic transnasal choanotomy; and highlight if any its benefits in our practice. This is an on-going study of all consecutive patients with choanal atresia, who had endoscopic transnasal choanotomy at the Otorhinolaryngology department of Aminu Kano Teaching Hospital from January to October, 2014. Four patients were recruited into the study and they all had endoscopic transnasal choanotomy with stenting of the neo- choanae. There were 3 females and 1male and their ages ranged between 12days and 18years. They all presented with varying degrees of persistent nasal obstruction, rhinorrhea and respiratory distress. Diagnostic nasal endoscopy and CT scan confirmed 1 patient had a bilateral membranous type atresia, 1 had bilateral bony atresia and 2 had right sided mixed membranous/bony atresia. Post-operative complications included rhinosinusitis, stent extrusion and granulation tissue formation. Follow ups at various intervals revealed 3 patients had adequate neo-choanal patency and 1 had a re-stenosis and was re-operated. This study found endoscopic choanotomy safe and effective in the treatment of choanal atresia in our practice.

KEYWORDS : Congenital abnormality, choanal atresia, endoscopic choanotomy, intra-nasal stents.

INTRODUCTION

Choanal atresia is a congenital failure of communication of the nasal cavity and the nasopharynx[1]. This condition may be unilateral or bilateral and it may be membranous, mixed bony-membranous or purely bony[2]. It is a rare condition occurring in about 1 in 10000 live births and it is commoner in females the ratio being 2:1[1,2]. This condition results in varying degree of nasal obstruction and is associated with nasal discharge and impairment in the sense of smell. It is best diagnosed using a high resolution axial computed tomographic scan (CT scan).

The technique for surgical repair of choanal atresia has evolved from the blind transnasal puncture described by Emmert in 1854, through the transpalatal approach, to the currently favored endoscopic transnasal approach[3]. Endoscopic transnasal approach has the reputation of being quicker, minimally invasive, has less complications and a high success rate[2]. Regardless of the surgical approach, controversy still exists on whether to use stents or mitomycin C in the post-operative period[3]. However, despite the unacceptably high rates of serious complications associated with the "head light assisted puncture technique" it is still commonly practiced in many centers[2].

This study aim at assessing endoscopic transnasal choanotomy and highlighting if any the benefits of the technique in our practice.

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CASE 1
A 12 day old female was referred from the Special Care Baby Unit to our ENT clinic with complaints of difficulty in breathing since birth. There was associated profuse nasal discharge, occasional bluish discoloration of the body and difficulty in breast feeding.

On examination, the child was found to have a Mc Govern nipple in her mouth and was occasionally restless. A cold spatula test showed there was absent misting. A diagnostic nasal endoscopy revealed copious purulent discharge in both nasal cavities. The atretic plates were observed in both nasal cavities with absent communication with the nasopharynx. A fine cut (0.5mm) axial CT scan showed a thick bony plate separating the nasal cavities from the nasopharynx. As a result, a diagnosis of a bilateral bony choanal atresia was established. The patient was reviewed by a paediatrician and other possible congenital abnormalities were ruled out.

The pre-operative PCV was 38.2%, platelets $234x10^9$/L and the other blood and urine tests were within normal limits. A day after presentation, she had endoscopic transnasal choanotomy under general anaesthesia and the neo-choanae were stented with trimmed endotracheal tubes for 2weeks. Her post-operative period has been uneventful apart from a few repeated episodes of acute rhinosinusitis. Her neo-choanae has remained patent (3months after surgery) and is still on follow up.

CASE 2
A 3 month old male was referred from a peripheral health facility to the ENT clinic of Aminu Kano Teaching Hospital with complaints of difficulty in breathing since birth. There was associated nasal discharge, refusal of feeds and failure to thrive. He was said to have cried at birth but the breathing was noticed to be abnormal.

Clinical examination revealed a child who was mouth breathing. A diagnostic nasal endoscopy showed bilateral nasal purulence and absence of communication between the nasal cavities and the nasopharynx. The atretic areas were visualized and had firm consistency. Other system examinations were normal and there were no other congenital abnormality. The pre-operative investigations were within normal limits. An axial CT scan confirmed a diagnosis of bilateral membranous choanal atresia and he had endoscopic choanotomy with stenting of the neo-choanae for 2weeks. After discharge from the hospital, patient had his stent extruded for 4 days and it had to be re-inserted. Patient's neo-choanae is still patent 2 months after surgery.

CASE 3
A 1-year old female presented with a history of a right sided nasal discharge and obstruction. The discharge was mostly colorless but occasionally greenish and with an offensive odor. There was no epistaxis or cough. She was seen at several private hospitals and a suspicion of a foreign body impaction was contemplated but none was ever found.
Clinical examination revealed a healthy looking child, not in respiratory distress, anicteric and acyanosed. The heart rate was 126 beats/minute and had vesicular breath sounds. The right nasal cavity was not patent and a size 6FG nasogastric (NG) tube could not be passed into the nasopharynx. Nasal endoscopy showed a thick yellowish discharge which was suctioned and the atretic plate was exposed. The left nasal cavity was normal. A fine cut axial CT scan showed the presence of a right bony choanal atresia. She had an endoscopic transnasal choanotomy with stent in place for 2weeks. There were no post-operative complications and the neo-choana is still patent 5 months after surgery.

CASE 4
An 18-year old female student presented to our facility with a history of a right sided nasal

discharge and persistent obstruction since childhood. There was no associated epistaxis.
On general examination, the patient appeared healthy and was not in any respiratory distress. The external nasal pyramid was normal and the right nasal cavity was not patent. Nasal endoscopy showed copious greenish discharge in the right nasal cavity. After clearance of secretions, the atretic region of the right nasal cavity was visualized and it had a bony hard consistency. A pure tone audiometry revealed normal hearing threshold in both ears. The patient was evaluated for the presence of CHARGE association and found to have none. CT scan showed features of bony atresia of the right choana, however, there were no ear abnormalities on review of the temporal bones. The patient had endoscopic canalization of the right choanal atresia with a stent in place for 2weeks. The patient defaulted follow up and re-presented a month later with a right nasal discharge and obstruction. Endoscopic evaluation showed stenosis and obliteration of the neo-choana with granulation tissue.. As a result, she had a repeat surgery and stenting for another 4weeks to ensure adequate healing. The post-operative period was uneventful and neo-choana has remained patent after 6 months of the repeat surgery.

DISCUSSION

Since the first description of choanal atresia repair by Johann George Roderer in 1755, many methods of surgical correction have been described. However, the transnasal and transpalatal approaches are now the most commonly used world-wide[4]. In this study, we report on endoscopic transnasal approach which is the preferred technique in our practice. This approach has been found to be quicker and associated with minimal blood loss. Moreover, it has the reputation of not interfering with palatal growth in children unlike the transpalatal approach[1]. On the other hand, endoscopic transnasal approach has this drawback of exposing a limited surgical field especially in the new born and endoscopes do not offer binocular vision[1].

Endoscopic transnasal technique has been facilitated not just by advances in instrumentation and anaesthesia, but also by improvements in the imaging technique. CT imagining has the unique advantage of differentiating membranous and bony choanal atresia[5]. In this study, all our patients had fine cut CT scans (0.5mm) before surgery. These scans did not only confirm the diagnosis, but were useful as surgical roadmaps and also ensured adequate pre-operative preparations. A previous study in our center relied on plain x-ray findings as CT scan was either not readily available nor was it affordable like it is today[6]. Likewise, the transnasal puncture technique even though prone to serious complications remained a valuable therapeutic option at that time.

Controversy still exists in the literature on whether placing of stents in the post-operative period after choanotomy provides improved outcome. In this study, all our patients had post-operative stenting using trimmed endotracheal tubes. On follow up, they all had patent neo-choanae except for one patient who defaulted and re-presented 4 weeks after surgery with severe granulation tissue formation obscuring the choana. This corroborates the findings of some researchers who emphasize that these stents aid healing around the neo-choana and allow for patency until scaring occurs[7,8,9]. On the contrary, the antagonists of stenting argue that with the high quality vision offered by the endoscope and with specialized instruments; damage to surrounding tissue is minimal and as a result obviates the need for stents[10,11]. Also, stents are burdensome to the patients and if not well managed are associated with complications such as crust formation, granulation tissue and septal perforation[1]. These workers concluded that aggressive nasal irrigation with saline and topical application of intra-nasal steroids is all that is required post operatively.

In addition to stents, it has been reported that topical application of the anti-neoplastic agent mitomycin C has been used as an adjunct to reduce risk of choanal stenosis. It works by inhibiting fibroblast growth and proliferation which may help keep granulation tissue at bay[1]. In this study, we did not use this agent on any of our patients as it is not readily available in our setting. Moreover, the potential oncogenic capacity of mitomycin is currently been investigated[2].

In conclusion, this study has found endoscopic transnasal choanotomy safe and effective in the treatment of choanal atresia in our practice. However, the authors acknowledge the limitations inherent in this study. Even though choanal atresia is a very rare condition, the relatively small sample size and the short follow up periods are obvious draw backs of this study. Hopefully, a large case series in due course will provide more valid observations.

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UTERINE RUPTURE FOLLOWING A MOTORCYCLE ACCIDENT AT N'DJAMENA (CHAD). A CASE REPORT.

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ABSTRACT

Rupture of a gravid uterus is a rare complication of motorcycle accident. We report the case of a 33-year old woman, gravida 6, referred as a case of uterine rupture with intrauterine fetal death at 36 weeks gestation, following a motorcycle accident. Emergency laparotomy revealed an anterior - lateral uterine rupture on the right side about 11 cm which involved the ipsilateral uterine artery. A conservative surgical treatment was employed. Splenectomy was also performed.

KEYWORDS : Uterine rupture - Pregnancy - Abdominal trauma - Road traffic accident.

INTRODUCTION

Uterine rupture is defined as a solution of non-surgical continuity of the uterus[1]. It became exceptional in the industrialized countries[2]. In Africa to the south of the Sahara; it constitutes a major obstetric problem. Its frequency is in order of 0.6% in Central African Republic[3], 1.01% in Enugu (Nigeria)[4], 1.15% in Bamako (Mali)[5] and 2.33 % in Niger republic[6]. Uterine rupture still remains one of the obstetrician's essential preoccupations. The main reported aetiologies are[7,8]: foeto-pelvic disproportion, dystocic presentations and the inappropriate use of the oxytocin. Among these aetiologies trauma is a cause in less than 1% [9]. We report a case of uterine rupture by direct abdominal trauma during a road accident in N'djamena (Chad).

CASE REPORT

Mrs. B.A. 33 years, 6th pregnancies, 5th deliveries with 5 living children (in her first marriage), was referred to our hospital in March 25, 2014 at 2 P.M by a peripheral health center for suspicion of uterine rupture post road accident. The pregnancy was dated to 36 weeks gestation based on an early ultrasound scan at 10 weeks of gestation.

The accident occurred two hours before presentation. The patient was a passenger on a motorcycle which collided with another motorcycle during a rush hour. Her abdomen knocked the handlebar of the motorcycle. She was first transported to a center of heath situated close to the place of accident.

Then she was evacuated to the maternity of the Mother and Child Hospital for better treatment. Pregnancy has been uneventful; she has made 5 prenatal consultations (of which the last was 2 days prior to the accident). All previous childbirths were normal and the patient has never been operated. On admission, she complained of generalized abdominal pain. She was conscious. The general examination revealed a general stage kept with pale conjunctivae mucous, an arterial tension of 80/60 Hg mm, a radial pulse of 120/minute and a temperature of 37.3°C.

The obstetric examination especially noted a painful abdomen in her whole mostly in sub umbilical area and to the left upper quadrant. It's difficult to delimit the uterus,

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but we noticed a sensation of fetus under skin and the absence of the fœtal's heart during auscultation. On vaginal examination, the vulva was clean and the cervix was anterior, soft and closed.

The rest of the clinical exam didn't note any other anomaly. An assessment of uterine rupture was made and the patient was prepared for laparotomy. Finding at the laparotomy revealed hemoperitoneum of 1500 ml and an intra-abdominal fetus with its placenta (weight = 2850g, feminine sex, born death, size = 49 cm, cranial Perimeter = 33 cm, thoracic Perimeter = 28 cm). After the extraction of the fetus an anterior - lateral uterine rupture in the right side reaching the vascular pedicle of about 11 cm of length was observed. A hysteroraphy was performed.

The exploration of the abdominal cavity discovered a lesion of the spleen about 3cm situated on the anterior face. The visceral surgeon conducted a splenectomia. The abdomen has been closed on a drain (blade of Delbet) put in place in the right parieto-colic gutter. The blood loss was compensated intra operatively by transfusion of 4 units packed red blood cells type (O +). The postoperative course was simple with discharge at the 7th postoperative day. In order to prevent pregnancy, contraceptive method based of progesterone (implanon[R]) was used during follow up.

DISCUSSION

Uterine rupture that occurs following violent trauma on healthy uterus seat typically affects the anterior face or the uterine bottom. These lesions are often associated with placental detachment. The consequences are more on the mother than for the fetus [9-11]. Most uterine rupture following road accidents occur at term [12] as seen in the index case.

The diagnosis of uterine rupture is usually clinical and straightforward as in the case presented. This obvious diagnosis found in our case is imputed on the one hand to the clinical stage and on the other hand to the circumstances of intervening. The uterine trauma followed by abdominal pains and the hemodynamic stage at the presentation are all in favor of uterine rupture.

At laparotomy the option are either conservative or radica1[12]. Our approach was conservative like those reported by earlier authors[12, 13]. The lack of tubal ligation in this case can be explained by social reasons. In Chad, to perform tubal ligation we need before a written consent. The second reason is related to the family's situation of our patient. She never gave birth with her new husband.

Maternal prognosis depends more on the extent of the lesions and the speed of the treatment. The quick treatment appears like a factor reducing blood loss and limiting its impact on the maternal hemodynamic stage. The spleen rupture found in our case was a factor that exacerbated the blood loss.

The high fetal mortality associated with uterine rupture has been reported in the literature[14-16]. However, according to Dao[12] the fetal lethality is not directly related to the severity of the accident, but result from the complications related to placenta' detachment.

CONCLUSION

Uterine rupture in pregnancy is a rare phenomenon. The diagnosis is often obvious and straightforward. Resuscitation and laparatomy should go in tandem. In per operative period the search for associated visceral lesion is always necessary. Beyond contraceptive treatment aimed to prevent pregnancy, the obstetrical prognosis is compromised. Then caesarean section should be indicated for future delivery. ■

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COLLISION COLORECTAL ADENOCARCINOMA AND HODGKIN LYMPHOMA: A CASE REPORT.

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ABSTRACT

Collision cancers of the gastrointestinal tract involving lymphomas are very rare. We report a case of collision cancer involving a well differentiated colonic adenocarcinoma and corresponding mesenteric Hodgkin lymphoma. The sentinel lymph node shows metastatic adenocarcinoma however, lymph nodes further away within the mesentery revealed mixed cellularity Hodgkin lymphoma. We want to emphasise that collision adenocarcinoma and Hodgkin lymphoma especially of the mesenteric lymph nodes is a very rare event.

KEYWORDS : Hodgkin lymphoma, Adenocarcinoma, Colon, Mesenteric lymph nodes, Collision.

INTRODUCTION

Collision cancers are defined as malignant neoplasms that occur simultaneously within a period of not more than six months and must be distinct enough that no possibility of one being the metastasis of the other cancer[1]. Hodgkin lymphoma does not commonly affect mesenteric lymph nodes (<5%) and its most frequent presentation is asymptomatic supraclavicular lymphadenopathy with or without symptoms[2]. Colorectal cancer is however the third most commonly diagnosed cancer in males and females and the rate of synchrony with lymphoma is estimated at 2%[3]. Coexistence of colonic adenocarcinoma and Hodgkin lymphoma in the same patient is rare and even rarer is occurrence in the same anatomical region[3]. We therefore describe here a patient with primary diagnosis of sigmoid colon adenocarcinoma and incidentally found to have Hodgkin lymphoma that involved mesenteric lymph nodes of the specimen removed.

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CASE REPORT

A 26-year old Nigerian male presented with a recent history of rectal bleeding and mass that was initially reducible but subsequently irreducible. On examination he was well looking but had external haemorrhoids at 12, 5 and 9 o'clock positions. His base line haematological and biochemical investigations were normal. CT scan of the abdomen revealed an iso-dense heterogeneously enhancing mass measuring 4.5x3.4cm in the region of the rectum inseparable from the posterior bladder margin. He had examination under anaesthesia (EUA) and a mass 10cm from the anal verge was found and a biopsy was taken which on histological examination revealed a well differentiated adenocarcinoma. He subsequently had anterior resection of the rectum. Intraoperatively, the mass had involved the posterior bladder wall and seminal vesicles with paracolic and para-aortic lymphadenopathy. The histopathology Department received a 12 cm segment of recto-

sigmoid colon with a mass bearing portion measuring 8x4x4 cm along with 13 lymph nodes. Histologically the mass was a well differentiated adenocarcinoma and 5 of the 13 lymph nodes revealed mixed cellularity Hodgkin lymphoma. There were metastatic deposits in 3 sentinel lymph nodes. Post-operatively the patient did well and had six courses of chemotherapy using Leucovorin, 5 Fluorouracil and Oxaliplatin for the dominant cancer (Adenonocarcinoma). He had been on follow-up since then and was last seen on 28/4/2014 with no complains.

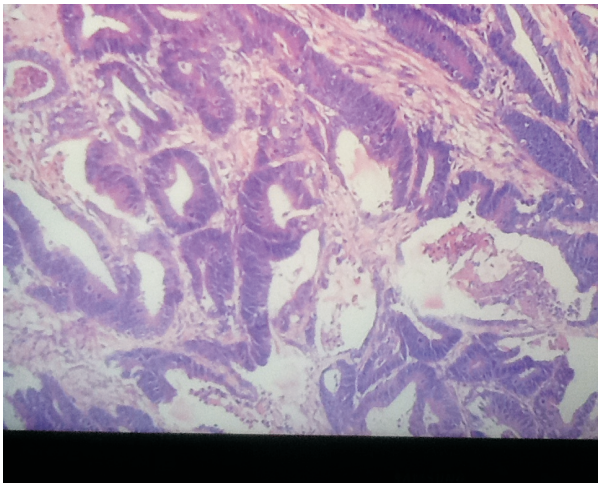

Figure 1: Well differentiated adenocarcinoma from the colonic mass.

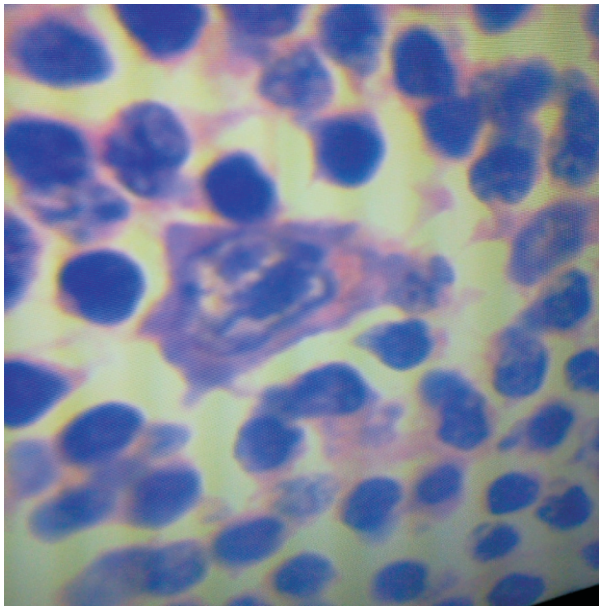

Figure 2: Classical Reed-Sternberg cell in an inflammatory background composed of plasma cells, polymorphs and lymphocytes from the mesenteric lymph nodes.

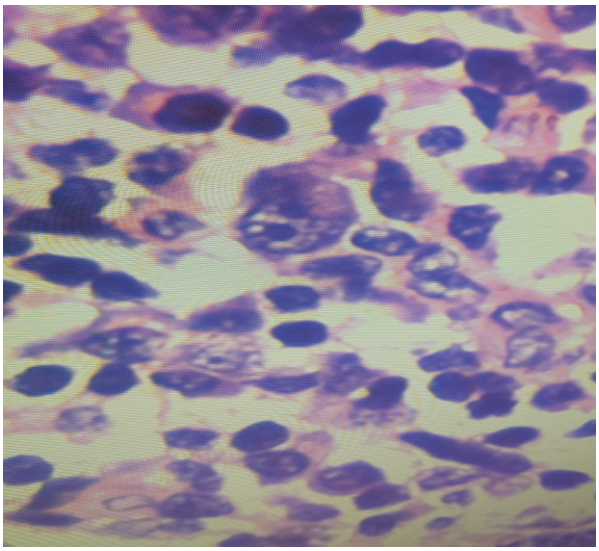

Figure 3: Hodgkin cell in an inflammatory background composed of plasma cells, polymorphs and lymphocytes from the mesenteric lymph nodes.

DISCUSSION

Collision cancers are uncommon and even more uncommonly found in the same anatomical region[3]. Further rare is also the primary occurrence of Hodgkin lymphoma in the mesenteric lymph nodes[4]. This happens in less than 5% of cases[4]. The most common site for involvement by Hodgkin lymphoma is supraclavicular region with or without symptoms[2]. Our patient had a combination of two cancers in the same anatomical region in the form of rectal adenocarcinoma and mesenteric lymph node Hodgkin lymphoma. The probability of having Hodgkin lymphoma coexisting with colonic adenocarcinoma is estimated to be 2%[3]. There have been literature reports of Hodgkin lymphoma and gastrointestinal carcinoma as either synchronous or metachronous coexistence[5,6]. As at 2012, 13 cases of synchronous colonic adenocarcinoma and malignant lymphoma were said to have been reported in the literature[7]. These cases were non-Hodgkin lymphoma with mantle cell lymphoma accounting for 5 of the 13 cases[7]. Two cases of synchronous Hodgkin lymphoma and colonic adenocarcinoma were reported in 2004 and 2009 respectively and were not among the 13 cases reported[8].

Our patient had an earlier histological diagnosis of a rectal adenocarcinoma (Figure 1). He had anterior resection of the rectum and the mass was further confirmed to be an adenocarcinoma. However, of the 13 lymph nodes dissected, three of them showed metastatic adenocarcinoma while five of those further away showed mixed cellularity Hodgkin lymphoma (Figure 2 & 3). Some factors and mechanisms have been proposed to be responsible for synchronous colonic carcinoma and lymphoma. Such factors include viral agents, immune abnormalities and the genetic make-up of the patients[7].

The overall prognosis of patients with collision lymphoma and carcinoma of the gastrointestinal tract is not available due to absence of long term follow-up but it is said to be generally dependent on the carcinoma as the lymphomas are usually of low grade or stage for non-Hodgkin and Hodgkin lymphoma respectively[9].

CONCLUSION

Multiple malignant neoplasms in the same patient are an important consideration in the treatment of patients with adenocarcinoma. The appropriate use of sensitive staging modalities makes the discovery of synchronous cancer a distinct possibility. The detection of concurrent cancer changes the modalities of treatment which will now depend on the dominant cancer (histological malignancy and stage of the dominant cancer) to maximise any chance of cure or cancer control. ▬

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