

Hepatobiliary and Pancreatic Surgery in a Low Budget Country: Experience from Ayder Referral Hospital in Mekelle, Northern Ethiopia

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Background:

The availability of specialized hepatobiliary and pancreatic surgery in low budget countries such as Ethiopia or other Sub-Saharan African nations continues to be limited to a select small number of patients that have the necessary funds to pay for this type of treatment. Since 2012 a training program for HBP surgery was established at Ayder Referral Hospital in Mekelle, Ethiopia, in order to educate and train the medical staff to perform HBP surgery independent of external help. This presentation aims to show the development of this program, initial results, and the pro and cons of such a training „on the spot“.

Methods

HBP training was performed at Ayder Referral hospital and consisted of theoretical training sessions, hands-on training in the OR, supply of surgical materials, and development of clinical pathways adapted to the facilities in Ethiopia. Over time, two senior surgeons were trained to perform pancreatic procedures independent of external help. The first Whipple procedure was performed in 2014. Due to problems in communication with the patient and his relatives he declined surgical abscess drainage secondary to pancreatic fistula formation. Subsequently, training of senior surgeons focused particularly on strategies of complication management with the resources available at Ayder.

Results

- (1) Since 2013 16 pancreatic resections (15 pancreatic head resections, 1 left pancreatectomy) were performed at Ayder Hospital. 13 patients suffered from pancreatic adenocarcinoma, one from pancreatic pseudopapillary tumor, and one from tuberculosis. One patient died 30 days postoperatively, because he declined a drainage procedure for peripancreatic abscess formation.
- (2) 3 liver resections were performed: one extended right hepatectomy (see case presentation) and 2 left hepatectomies.
- (3) From 2013 till 2017 five training courses were held at Ayder Referral Hospital, comprising lectures, interdisciplinary case conferences and hands-on training in the operating room.
- (4) Based on the difficulties in dealing with complications in early cases a treatment algorithm and focussed teaching sessions were established to train surgeons in complication management after HBP procedures.
- (5) Basic equipment such as an abdominal wall retractor, surgical clips or staplers were provided by Etiopia Witten e. V.; specialized suturing materials remain difficult to obtain, and procedures must often be performed with the limited range of sutures available.

Discussion

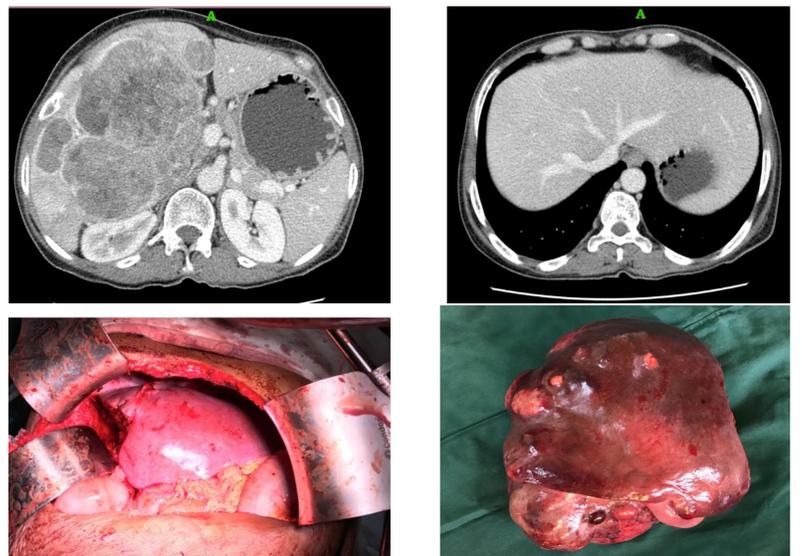
- (1) Training programs focussing on complication management greatly improved the quality of clinical management and helped to lessen the fear of complicated cases
- (2) Advantages of training „on the spot“ are that the program is cost effective, totally „hands-on“ with extensive surgical exposure of the surgeons being trained, and that many surgeons can be trained at a time by a single guest surgeon.
- (4) A disadvantage of this model is that it is less formal and leaves only a limited amount of time for the actual training, based on the restricted availability of the guest surgeon(s) and the case load present at that time.

Perspective:

The demand for HBP surgery in Sub-Saharan Africa is increasing. Efforts should be made to improve the facilities and skills to perform HBP surgery in these countries. Training programs could encompass „on the spot“ teaching on a national or international level in order to establish HBP specialists. These experts should in turn expand the number and equipment of HBP centers in these countries. Support by organizations such as the IHPBA, the E-AHPBA, the WHO or the Harvard Program of Global Surgery might help to facilitate this endeavour. Professionalisation of treating HBP patient must also include improvement of neighbouring medical fields such as gastroenterology, interventional radiology and intensive care.

Case presentation:

53 year old female with a short history of upper abdominal pain, abdominal distension, good liver function, and negative HBV serology. CT showed a large hepatic mass involving liver segments IV-VIII highly suspicious of a locally advanced hepatocellular carcinoma. Following extensive discussions an extended right hepatectomy was performed. The patient received 3 units of PRBC postoperatively, suffered from chylous drainage for a few days, and left the hospital 16 days after the operation.



Pathological examination showed a moderately differentiated hepatocellular carcinoma.