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Minimally invasive approach on colorectal cancer specimen - TME and CME

### Abstract

The main aim is to get trained in the following field: minimally invasive approach on colorectal cancer (CRC) specimen - Total Mesorectal Excision (TME) with autonomic nerve preservation (ANP) and complete mesocolic excision (CME) with central vascular ligation (CVL).

Additionally, this study will help to establish partnership and collaboration between the university clinic of TSMU and host University teaching hospital Padova, Italy.

Cancer is a major public health burden in Georgia. Registered cancer prevalence in Georgia exceeds 34,000 persons/year and additionally, in 2016 more than 7800 new cases and 5700 mortality cases are reported annually (1204 and 476 for CRC, respectively of which around one-thirds occur in the rectum), radical operative procedure for CRC - were done in 318 cases.

Only in seldom cases treatment options were CME and TME. The main reason of this is lack of CRC surgeons advanced professional and laparoscopic skills. The triple H (Hohenberger, Holm, and Heald) have guided a way of CRC surgery which improves the patients prognosis. It depends on the surgeons to implement this knowledge into clinical routine practice.

The key player in the treatment of CRC cancer is surgery. In the 1980 Heald and Ryall introduced a new surgical technique of complete removal of the fatty envelope surrounding the rectum (mesorectum), called total mesorectal excision. In published research TME combined with neoadjuvant chemoradiotherapy in selected patients has reduced locoregional recurrence rates to below 10% and improved cancer-free survival rates to more than 70%.

In colon carcinomas the surgical technique of complete mesocolic excision (CME) that was published by Hohenberger in 2009 started in Erlangen then spread around the world. In comparative study with Leeds university clinic was shown, that potentially curative disease resected in the mesocolic plane can expect a 5-year overall survival of 58% compared with just 35% if resected in the muscularis propria plane. Laparoscopic and da vinci surgery has progressively replaced open CRC surgery in recent decades owing to favourable short-term outcomes, such as less pain, reduced blood loss, and improved recovery time.

I will have the opportunity to participate in the initial contact, diagnostic evaluation, planning of surgery, pre-operative work-up, surgical procedure, post-operative follow-up, evaluation by the medical and radiation oncologist, after my host supervisor and other colleagues will show me laparoscopic and da vinci technique for TME and CME in OR.

In the first university clinic of Tbilisi State Medical University are already used open and in seldom cases laparoscopic CRC surgery, by this reason and my motivation I believe, I can assimilate modern major steps treatment of CRC with minimally invasive approach - TME with ANP and CME with CVL.