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## Robotic versus laparoscopic anterior rectal resection with total mesorectal excision (TME) for cancer: Comparative study of functional and oncologic outcomes

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**Introduction:** In the field of rectal surgery, robotic approach has become popular due to its characteristics that are supposed to overcome the limitations of laparoscopy. The aim of the present study is to compare laparoscopic and robotic rectal resection (RR) for low rectal cancer evaluating intra and post operative results, in particular the functional and oncologic aspects.

**Materials and methods:** An analysis of all patients with mid to low rectal cancer admitted to our department during last 5 years was performed. Operative variables, pathology aspects and oncologic outcomes were compared between patients underwent laparoscopy or robotic rectal resection (RR) with total mesorectal excision (TME). Urinary, sexual and bowel function were also assessed using specific questionnaires and results were calculated with specific scoring.

**Results:** From January 2009 to June 2013, 51 patients with mid to low rectal cancer were enrolled of whom 25 underwent laparoscopic RR and 26 underwent robotic RR with TME. The robotic group had lower rectal cancers. Conversion rate were lower in the robotic group (3.8% versus 36%;  $p=0.005$ ) whereas operative time was shorter in the laparoscopic RR (245 min versus 417 min;  $p<0.001$ ). No differences was noted in the other operative and post-operative variables. Mean progression free survival was 30 month for laparoscopic and 29.5 months for robotic group ( $p=0.45$ ). Concerning sexual and urinary outcomes, some scores decreased significantly compared to pre-operative values but subsequently all parameters increased and after 1 year, no differences were detected. In addition no differences were found between robotic and laparoscopic group. Bowels movements was not different in the two group (3.4 versus 3.8 /day;  $p=0.6$ ).

**Conclusions:** Robotic approach rectal surgery for cancer have no disadvantages in terms of functional and oncologic outcomes compared to standard laparoscopy. In addition this procedure maintains all the advantages of minimally invasive procedure also in difficult cases where with pure laparoscopy there are more risks of conversion to open surgery.

### Biography

Guadagni Simone has completed his MD degree in 2009 from University of Pisa School of Medicine and now he is a General Surgery Resident at the same university, participating in over than 300 surgical procedures. He is the author of 5 scientific articles on emergency surgery, oncologic colorectal surgery, minimally invasive surgery and surgical infections and has been invited to lecture at least 6 national and international professional medical conferences. He has participated in important experimental projects including S.I.L.S. study financed by the Italian Health Ministry and the R.O.L.A.R.R. international trial supported by Leeds University. For his clinical work he has been selected by the European Association of Endoscopic Surgery top ten oral presentation in 2013 (EAES Karl Storz Awards, Vienna). He has completed a certificate program for Abdominal Ultrasound and he become a member of the Italian Society of Ultrasound in Medicine and Biology.

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