

Gesellschaft der Chirurgen in Wien

Rektumkarzinom: Chirurgie und Pathologie

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Präoperatives Staging des Rektumkarzinoms mittels MRT unter Verwendung eines neuen Kontrastmittels – Vergleich mit Endosonographie

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Grundlagen: Bedingt durch technische Fortschritte, wird die MRT in letzter Zeit zunehmend neben der Endosonographie zum präoperativen Staging von Rektumkarzinomen eingesetzt. Die Aussagekraft der MRT bezüglich des T-Stagings konnte durch die Verwendung von Endorektalspulen deutlich gesteigert werden. Wie bei der Endosonographie, liegen die Nachteile der Endorektalspulen jedoch bei hochgelegenen und zirkulär stenosierenden Karzinomen. Es war daher das Bestreben, die Aussagekraft der MRT unter Verwendung von Körperspulen mittels einer Doppelkontrastuntersuchung zu verbessern.

Methodik: Bei der Doppelkontrast-MRT wird dem Patienten zuerst ein negatives Kontrastmittel rektal verabreicht, welches einerseits zur Distention des Rektums, andererseits zu einer besseren Kontrastierung der Rektumwand gegenüber den umliegenden Strukturen dienen soll. Nach Anfertigung von 3 Sequenzen in unterschiedlicher Schnittführung wird dem Patienten Gadolinium intravenös appliziert und anschließend abermals 3 Sequenzen angefertigt. An dieser Doppelkontrast-MRT Studie nehmen 4 Zentren (Amsterdam, Innsbruck, München, Wien) teil. Insgesamt werden 112 Patienten mit der Verdachtsdiagnose eines Rektumkarzinoms untersucht.

Ergebnisse: Detaillierte Ergebnisse liegen zur Zeit noch nicht vor, da die Studie noch nicht abgeschlossen ist. Die ersten Teilergebnisse dieser Studie zeigen, daß von 8 pT2-Karzinomen 5 korrekt diagnostiziert wurden, 3 Tumoren wurden als T3-Karzinome klassifiziert. Bei 12 pT3-Karzinomen konnte in 10 Fällen eine richtige Diagnose erstellt werden, 1 Tumor wurde als T2 klassifiziert, 1 als T4. Die ersten Ergebnisse der Doppelkontrast-MRT sind mit den Ergebnissen der Endosonographie vergleichbar.

Schlussfolgerungen: Die Doppelkontrast-MRT wird in Zukunft vor allem bei hochgelegenen und zirkulär stenosierenden Karzinomen eine ergänzende Methode zur Endosonographie darstellen.

Surgery for Rectal Cancer – Results and Implications of Total Mesorectal Excision (TME)

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Background: The rectum and its mesorectum – embryologically the visceral hindgut and its mesentery – are surrounded by a surgically recognisable areolar plane which can be carefully developed by the surgeon. Freedom from involvement of the margins of the excised specimen can be confirmed by the pathologist. The plane has been called the "holy plane" and the surgical thesis "specimen orientated surgery".

Methods: The setting of this year's meeting in Vienna provided a unique opportunity for Total Mesorectal Excision to be demonstrated, audited and discussed. Four demonstration operations,

three recorded and transmitted by television, were accompanied by histopathological workshops emphasising the *Quirke* method for auditing the circumferential margins (1). These essentially craft based concepts directed towards the creation of a defined reproducible tissue block by painstaking surgery so that operation times are 3 to 5 hours. These practical concepts are uniquely complemented at this time by the recent work in Vienna by *Andrea Maier* and her co-workers on the Ferristene enhanced MRI imaging technique. This enables the mesorectal specimen with the extensions of the tumour within it to be clearly visualised before operation. Since the plane of intended dissection can also be visualised any proximity of tumour to the achievable margin of excision can be established before surgery. In one demonstration case clinical fixation on bimanual examination, formerly a likely indication for pre-operative radiotherapy, was nevertheless shown to be due to large tumour size within a small male pelvis and not to adherence or invasion by tumour. This set the scene for a technically difficult operation, but an achievable specimen without circumferential margin involvement, i.e. DXT might have made the tumour smaller and the operation easier but was not necessary to facilitate a histopathologically confirmed "curative" resection.

Results: The importance of the mesorectal concept depends entirely upon the results which can be achieved. Low rectal cancer has always been shown to have a worse prognosis in terms of local and overall recurrence than higher tumours. The figures were therefore presented from Basingstoke, England, of 136 consecutive operations over a 17-year period for ultra low cancers below 5 cm from the anal verge (2). These tumours would all conventionally undergo abdomino-perineal excision but the TME concept has been tested to the limit by conserving the sphincters in 105 (77%). The danger of implantation of shed intraluminal cancer cells has been carefully guarded against by clamping and washing below the clamp before dividing the muscle tube. More recently the PI 30 stapler (Auto Suture) has been used with one cartridge to seal the specimen and the second through washed anorectum retained in the patient for subsequent circular stapling (the Moran triple stapling technique) (3). The local recurrence rate in the 105 ultra low AR and TME operations was 4% on life table analysis and the 6-year freedom from any recurrence 68%. If only "curative" cases are considered and those with metastases or believed local residual disease excluded these figures improve to a 1% local recurrence and 76% 6-year cure (4).

Conclusions: The intact unbreached mesorectum is the principal determinant of surgical cure in rectal cancer. Histopathological audit of such specimens is feasible by the *Quirke* technique, and craft workshops based upon TV technology for surgeons are the principal way forward. Pre-operative imaging by enhanced MRI has been developed in Vienna and is likely to prove a major complementary modality.

References

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