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Rectal cancer surgery. A ten years experience

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SUMMARY: **Rectal cancer surgery. A ten years experience.**

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Rectal cancer is one of the most common malignancies in the western world population. The management of rectal cancer has changed thoroughly in recent years owing to the rapid advances in surgical techniques, imaging and adjuvant therapy.

The present study analyses extensively 152 patients operated for diagnosis of, rectal cancer in the First Clinic of General Surgery UHC "Mother Theresa" in Tirana, Albania, in a ten years period. In the medical and operative records were analysed demographic, diagnostic, clinic, operative, pathology and postoperative patient's data.

M : F ratio was 1,5:1. The average age of all patients was 59,8 ± 12,2 (29 – 79) years. 48% of all patients were of the age group 61 – 70 years. The diagnosis interval was 6 ± 4,6 months. The mean distance of tumor from the anal verge was 8,3 ± 4,2 (3,7 – 16) cm. 30% of all patients resulted stage D, according to the Astler – Coller classification. Overall operability index was 97,5%. 30 % of patients were treated with palliative operative procedures. 67,5% of all patients were treated with curative intent. The most common curative operation was low anterior resection with mesorectal excision in 76 patients (51%). The mean postoperative hospital stay was 12 ± 9,7 (3 – 45) days. Overall postoperative morbidity and mortality were 30% and 2,6% respectively.

The surgical treatment of rectal cancer has changed radically in recent years in Albania. Relatively new surgical techniques, like low anterior resection and use of adjuvant chemoradiotherapy have improved the outcome, quality of life and survival of our patients.

RIASSUNTO: **Chirurgia del cancro del retto. Dieci anni di esperienza.**

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Il cancro del retto è una delle più comuni malattie maligne nella popolazione occidentale. Il trattamento del cancro del retto è cambiato radicalmente negli ultimi anni seguendo i repentini progressi delle tecniche chirurgiche, della diagnostica per immagini e della terapia adiuvante.

Lo studio prende in esame 152 pazienti operati per cancro del retto nella 1ª Clinica di Chirurgia Generale del Centro Ospedaliero Universitario "Madre Teresa" di Tirana, Albania in un periodo di dieci anni. Nella documentazione medica sono stati analizzati dati demografici, diagnostici, clinici, operatori, patologici e post operatori.

La ratio M:F era di 1,5:1. L'età media dei pazienti era di 59,8 ± 12,2 (29 – 79) anni. 48% dei pazienti erano di età compresa tra 61 a 70 anni. L'intervallo di diagnosi era di 6± 4,6 mesi. La distanza media del tumore dal margine anale era di 8,3 ± 4,2 (3,7 – 16) cm. Il 30% dei pazienti risultava allo stadio D della malattia secondo la classificazione di Aster–Coller. L'indice globale di operabilità è stato del 97,5%. Il 30% dei pazienti è stato sottoposto a trattamenti chirurgici palliativi. Il 67,5% dei pazienti è stato trattato con intento curativo. L'intervento curativo più comune è stata la resezione anteriore del retto con escissione del mesoretto, effettuata su 76 pazienti (51%). La degenza media ospedaliera post operatoria è stata di 12 ± 9,7 (3 – 45) giorni. La morbilità e la mortalità globale sono state del 30% e del 2,6% rispettivamente.

Il trattamento chirurgico del cancro del retto in Albania negli ultimi anni è cambiato radicalmente. La resezione anteriore bassa e l'utilizzo della chemioterapia adiuvante hanno portato a risultati positivi sulla qualità della vita e sulla sopravivenza dei pazienti.

KEY WORDS: Rectal cancer - Chemotherapy - Low rectal resection - Mesorectum.
Cancro del retto - Chemioterapia - Resezione anteriore bassa - Mesoretto.

Background

Rectal cancer is one of the most common malignancies in the western world and in our albanian population (1). The management of rectal cancer has changed thoroughly in recent years: advances in surgical technique, imaging and adjuvant therapy have dramatically altered the way patients are treated (2).

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Our present study aims to give a complete overview of the surgical treatment of the patients with rectal cancer in the First Clinic of General Surgery UHC "Mother Theresa" in Tirana, Albania in the past ten years.

Patients and methods

The medical and operative records of 152 consecutive patients who undervent elective surgery in the First Clinic of General Surgery UHC "Mother Theresa" in Tirana, Albania for the diagnosis of rectal cancer from January 1, 2000 till December 31, 2009 were analysed and examined in detail.

The diagnosis and preoperative evaluation of rectal cancer was made by colonoscopy, abdominal CT scan, chest X-ray and biopsy. Some patients were examined with barium enema, MRI and abdominal/rectal ultrasound (3).

The localisation of the rectal tumor was classified using the 'rule of thirds' (lower third 3,5 – 7,5 cm; middle third 7,5 – 12 cm and upper third 12 – 16 cm from the anal verge) (4). The perioperative staging of the the rectal carcinoma was based on the modified Astler –Coller classification of the Dukes staging system for colorectal cancer (5) (Table 1).

Surgical procedures included low anterior operation, Hartmann resection, abdominoperineal resection (Miles), palliative colostomy and local excision. All anastomoses performed in the above mentioned procedures were hand sewn.

Postoperative complications were defined as those occurring during hospitalization or within 30 days of surgery; including abdominal and extraabdominal complications (6). Mortality was defined as death occurring in the hospital (6, 7). Clinical leak was defined as evidence of generalised or pelvic infection associated with symptoms as abdominal pain, fever, leucocytosis, or shock (6, 8). The leakage was confirmed by contrast enema, or CT scan or at reoperation.

Data are expressed as means ± SD (ranges). The statistical analysis was made using Student test. Significance was defined as $P < 0,05$.

Results

From 2000 to 2009 (ten years), 152 patients undervent elective surgery in the First Clinic of General Surgery UHC "Mother Theresa" in Tirana, Albania, for the diagnosis of rectal cancer. Demographic data of the patients are given in Table 2.

The anamnestic data (signs and symptoms) of all patients are given in Table 3.

The diagnosis interval (time interval elapsed from the onset of signs and symptoms to correct diagnosis) was 6±4,6 (1 week – 16 months) months

The tumor characteristics of all patients are given in Tables 4 and 5.

The mean distance of tumor from anal verge was 8,3±4,2 (3,7–16) cm.

From 152 patients, 4 (2,5%) resulted inoperable at the time of surgery. Overall operability index was 97,5%; 46 (30%) patients of advanced stages C3 and D were treated with palliative operative procedures (Table

TABLE 1 - MODIFIED ASTLER-COLLER CLASSIFICATION OF THE RECTAL CANCER (5).

Stage	Description
A	Lesion not penetrating submucosa
B1	Lesion invades but not through the muscularis propria
B2	Lesion through intestinal wall, no adjacent organ involvement.
B3	Lesion involves adjacent organs
C1	Lesion B1 invasion depth; regional lymph node metastasis
C2	Lesion B2 invasion depth; regional lymph node metastasis
C3	Lesion B3 invasion depth; regional lymph node metastasis
D	Distant metastatic disease

TABLE 2 - DEMOGRAPHIC DATA OF ALL PATIENTS (152).

Sex	
Males	92 (60%)
Females	60 (40%)
M : F ratio	1,5 : 1
Age (yrs)	
Males	59,7 ± 10,5 (38 – 77)*
Females	60,3 ± 13,4 (29 – 79*
All patients	59,8 ± 12,2 (29 – 79)*

** 68 patients (48%) were of the age group 61–70 years. Statistical analysis using Student test resulted P = NS (non significant).*

TABLE 3 - SIGNS AND SYMPTOMS OF ALL PATIENTS (152).

Signs and symptoms	Pts	%
Pain	124	82
Weight loss	118	78
Mucous diarrhea	102	67
Constipation	96	63
Rectal bleeding	80	52
Tenesmus	34	22
Ileus	10	7

TABLE 4 - LOCALISATION AND MACROSCOPIC FEATURE OF TUMOR (152 PTS).

	Pts	%
Localisation		
Upper third	64	42
Middle third	56	37
Lower third	32	21
Macroscopic feature		
Ulcerative	67	44
Infiltrative (circular obstructing)	41	27
Polypoid	29	19
Mixed type	15	10

TABLE 5 - MODIFIED ASTLER-COLLER CLASSIFICATION OF TUMOR (152 PTS).

Stage	Pts	%
A	-	-
B1	10	6,5
B2	28	18,5
B3	4	2,5
C1	-	-
C2	34	22,5
C3	30	20
D	46	30

TABLE 6 - PALLIATIVE SURGICAL TREATMENT OF RECTAL CANCER (46 PTS).

Procedure	Pts	%
Hartmann's operation	34	74
Palliative colostomy	12	26

6); 102 (67,5%) patients were treated with curative intent shown in Table 7.

The postoperative hospital stay was 12±9,7 (3 – 45) days. The postoperative hospital stay in three most performed operative procedures is shown in Table 8.

Histology of all resected specimen showed adenocarcinoma; well differentiated in 58%; mid differentiated in 30%, undifferentiated in 12% of cases.

Overall postoperative morbidity was 30% (Table 9).

Overall mortality was 2,6% (4 patients in the postoperative period).

TABLE 7 - CURATIVE SURGICAL TREATMENT OF RECTAL CANCER (102 PTS).

Procedure	Pts	%
Low anterior resection	76	74,5
Abdominoperineal resection	22	21,5
Local excision	4	4

TABLE 8 - POSTOPERATIVE HOSPITAL STAY OF DIFFERENT OPERATIVE PROCEDURES (132 PTS).

Procedure	Postoperative hospital stay (days)
Abdominoperineal resection	16 ± 12,6 (7 – 38)*
Low anterior resection	11 ± 3,5 (6 – 19)*
Hartmann's operation	10 ± 2,9 (8 – 14)*

** Statistical analysis using Student test resulted P = NS (non significant).*

TABLE 9 - POSTOPERATIVE MORBIDITY OF ALL PATIENTS (152).

Complication	Pts	%
Abdominal wound infection	12	7,9
Anastomotic leak	11	7,2
Urinary tract complications	6	4
Pulmonary complications	5	3,3
Intraabdominal collections	4	2,6
Perineal wound infection*	4	2,6
Ileus	2	1,3
Postoperative haemorrhage	1	0,7
Total	45	30

** 18% of patients operated with abdominoperineal resection (Miles).*

Discussion

Preoperative evaluation of rectal cancer has become inceasingly important to choose the optimum surgical treatment and to obtain the best results and disease-free survival (9). Our patients were examined and evaluated with colonoscopy, abdominal CT scan, chest X-ray and biopsy and some of them with barium enema, MRI and abdominal/rectal ultrasound (3, 9). In general, preoperative data agreed with the operative findings, but a major drawback was the long time to reach the diagnosis (mean 6 months), with the consequence that 30% of patients were stage D of Astler-Coller classification at the time of diagnosis and was impossible to perform a curative resection in these patients. The demographic data of our patients indicate clearly that rectal cancer is rare before the fifth decade of life, with a slight preference for the male sex (7, 10, 11). All the patients treated with local excision of tumor were examined with rectal ultrasound to asess the tumor spread through the rectal wall and the involvement of perirectal lymph nodes (12). However, the extent of local spread, tissue infiltration and lymph node involvement was better defined by abdominal CT scan and, occasionally MRI (2, 12). In our country, in the past, cancers of the middle and distal rectum were treated by abdominoperineal resection of the rectum, but in the last 20 years these cancers have been treated increasingly by low anterior resection, which avoids the need for a permanent stoma (10, 13, 14). Seventy-six (50%) patients undervent low anterior resection in our Clinic with good results. For the high rectal cancer, rectal excision and mesorectal excision were performed at least 5 cm below the level of the tumor; for low and middle rectal tumors a near-total mesorectal excision was performed (14, 15). Total mesorectal excision had reduced local recurrence following surgery to less than 15%, without raising the anastomotic dehiscence rate (16). The overall morbidity and anastomotic leakage rates of 30% and 7,2% respectively observed in our patients were comparable to the rates reported by other authors (7, 10, 13, 14, 17, 18). Postoperative anal dilatation has been used as a protective measure against the leakage at the level of anastomosis (7, 14). In carefully selected patients, particularly the elderly or those with severe co-morbi-

dity, we made the local excision of tumor associated with adjuvant therapy as a reasonable option of treatment with good results and low recurrence rates (19, 20). All our patients were treated with adjuvant chemo- and radiotherapy accordind to tumor stage and general conditions. In some selected cases, chemoradiotherapy was used succesfully to "downstage" unresectable cancers and to treat them with surgery (21, 22).

Conclusion

The surgical treatment of rectal cancer has changed radically in recent years in Albania. Relatively new surgical techniques, like low anterior resection, and routine use of adjuvant chemoradiotherapy have improved the outcome, quality of life and survival of our patients (2, 7, 10, 11, 14, 21, 22).

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