

Clinic of Surgery Nr. 1 (Head of the Clinic: prof. dr. E.V. Bancu) Tirgu-Mureş

SURGICAL PROBLEMS IN THE ELDERLY

E.V. Bancu, A.K. Keresztessy, C. Copotoiu, S. Bancu, M. Baghiu,
M. Eşicanu, T. Grozescu, V. Bud, T. Bara, F. Tollas, Ana Csizér, Liliana
Tarău, M. Coroş, D. Marian, N. Cornea

The increasing interest in geriatric surgery is a rather new development in medicine. It seems that the first preoccupations in this field were shown by *Brookes* as early as in 1926, when he reported 293 surgical interventions in elderly patients.

After the 4th decade of our century, such papers have been published more and more frequently, as the elderly population has an increasingly higher ratio within the populations, especially in the countries highly developed from an economic-social point of view.

As a matter of fact, the countries with a high standard of living, enjoying special conditions (nutrition, sports, medical care, highly developed preventive medical conditions etc.) succeeded in raising the mean or life expectancy of the population.

The authors dealing with the problem raised by us, too, have asked: Where does old age begin? Although the calendar age does not very often coincide with the biological age, most authors agree to take as a starting point the age of 70 in defining the lower limit of the elderly.

The population over 70 years of age has greatly increased in the last decades, thus in England (1970) it was 7.7% of the total population, whereas in 1980 it increased to 8.6—9.3%. In Australia, it increased from 5% in 1921 to 7% in 1969.

In the conditions of the growth of elderly population, the percentage of people who request surgical services will increase, too.

Material and Method

Our paper presents a clinical study of 5 years (1982--1986), making use of a casuistics of 1287 cases hospitalized in order to undergo operations at the Clinic of Surgery Nr. 1, Tirgu-Mureş, Romania. These patients represent 3.43% of all the cases having surgical treatment at our clinic during the above-mentioned period of time, the total number of surgical interventions being 15,252 (Table I).

Thus, we have studied the case records of 1287 patients aged over 70 years, taking a special interest in classifying the patients in age and sex groups, operative diagnosis, arrangement of tumoral diseases in the order of frequency, diseases requiring emergency and elective inter-

THE NUMBER OF PATIENTS OVER 70 YEARS OF AGE OPERATED IN THE CLINIC OF SURGERY NO1 TG-MUREȘ BETWEEN 1982-1986, AND THE PERCENTAGE REPRESENTED OUT OF THE ALL INTERVENTIONS (1287 out of 15252 = 8,43%)

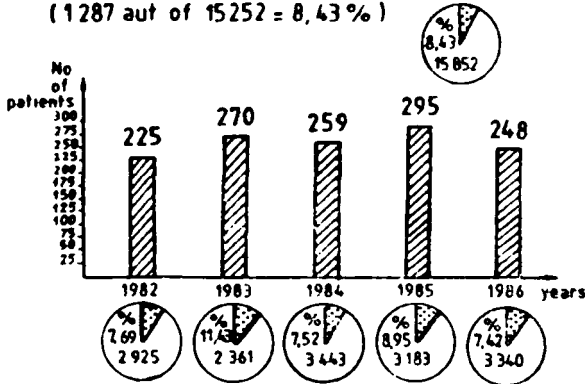


Table I
AGE AND SEX GROUPS

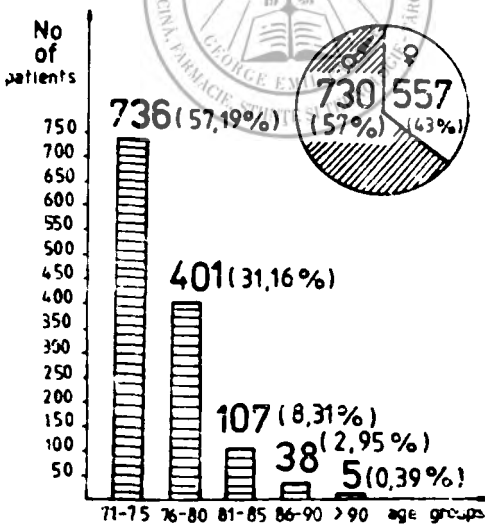


Table II

ventions, associated diseases, types of interventions, postoperative complications of those mentioned above and postoperative early deaths.

Results

The number of patients having undergone an emergency intervention was 455 (35.35%), as compared with 832 cases with elective surgery (64.64%). It is well known that the mortality of the elderly with emergency interventions is much higher than that of those with elective interventions.

Out of the total number 557 were female patients (43.27%) and 730 male patients (56.72%). Subdividing the cases into age groups (Table II), we have found that 57.19% of the patients belonged to the group of 71—75 years, 31.16% to the group of 76—80 years, 8.13% to the group of 81—85 years, then the percentage was as low as 2.95% for the group of 86—90 years, and only 5 patients were over the age of 90, the oldest case being 99 years old.

The operative diagnosis of the patients is given in Table III, in which the following diseases are shown in their order of frequency: hernias and eventrations, cholecystopathy, esogastric cancer, colorectal cancer, peptic ulcer etc. Out of the 1287 cases 922 were benign (71.64%) and 365 malignant (28.36%).

Table Nr. IV shows the emergency casuistics of the elderly hospitalized by us: strangled hernias predominate, and they are followed by acute cholecystopathy, acute appendicitis, perforated peptic ulcer, and intestinal obstruction.

Table V presents the 832 elective cases (64.64%). It has been found that here the predominant cases were also hernias and eventrations, followed by gastric cancer, chronic cholecystitis, colorectal cancer, arteriopathy of the legs, breast cancer and peptic ulcer.

Out of the 1287 patients having undergone operations, 688 (53%) suffered from various obvious associated diseases such as: bronchopulmonary diseases found in over 70% of the cases, obvious cardiovascular diseases in 245 cases (19.03%).

In 31 cases of all the 83 deaths cardiorespiratory failure was found, whereas toxicoseptic peritonitis in 25, cardiorespiratory arrest in 8, intraoperative cardiorespiratory arrest in 5, massive pulmonary embolism in 4 cases were noted.

We have found a lot of patients with metabolic disequilibrium especially in cancer and emergency cases. Hypoproteinemia, diabetes mellitus, anemia, hydro-mineral disequilibrium were the reasons why we insisted on both preoperative preparation and postoperative care of patients.

Out of the total of 1287 patients after operation, 108 patients (8.39%) had notable postoperative complications. Among local complications, we have found suppuration of the wound in 62 patients (4.82%), eviscerations in 13 and severe bleeding in 5 cases. Early intestinal obstruction requiring reinterventions was noted in 4 patients. In 6 cases there was anastomotic leakage not leading to death, and in 1 patient sigmoid loop necrosis was revealed.

THE CLASSIFICATION OF
THE MORE FREQUENT DISEASES

DISEASES	No	%
Hernias and Eventrations	398	30,92
Cholecystopathy	142	11,03
Eso-gastric Cancer	95	7,38
Colo-rectal Cancer	91	7,07
Peptic Ulcer	65	5,05
Obstructive Arteriosclerosis	56	4,35
Appendicitis	53	4,12
Breast Cancer	50	3,88
Carcinoma of the Pancreas	25	1,94
Carcinoma of the Liver and Biliary Tract	21	1,63
Miscellaneous (hydrocele, thyroid goiter, infarctio-mesenteric infarction, pancreatitis, posttraumatic lesions, etc.)	291	22,61
TOTAL	1287	100
Nonmalignant diseases	922	71,64
Malignant tumoral diseases	365	28,36

Table III

EMERGENCY
(455)



DISEASES	No	% (455)
STRANGLED HERNIAS	196	43,08
ACUTE CHOLECYSTITIS	54	11,87
ACUTE APPENDICITIS	47	10,33
PERFORATED OR BLEEDING ULCER	30	6,59
NON-TUMORAL BOWEL OBSTRUCTIONS	28	6,15
POSTTRAUMATIC VISCERAL LESIONS	17	3,74
OBSTRUCTIVE COLO-RECTAL CANCER	14	3,08
INTESTINOMESENTERIC INFARTION	12	2,64
ACUTE PANCREATITIS	11	2,42
PERFORATIONS OF THE SMALL INTESTINE	7	1,54
MISCELLANEOUS	39	8,57
TOTAL	455	100
MALIGNANT TUMORS	31	6,81

Table IV

ELECTIVE OPERATIONS

(832)



DISEASES	No	(832)%
HERNIAS AND EVENTRATIONS	202	24.28
CANCER OF THE STOMACH	84	10.10
CHRONIC CHOLECYSTITIS	79	9.49
COLO-RECTAL CANCER	77	9.25
OBSTRUCTIVE ARTERIOSCLEROSIS	56	6.73
BREAST CANCER	50	6.00
PEPTIC ULCER	35	4.20
CARCINOMA OF THE PANCREAS	26	3.12
HYDROCELE	20	2.40
CANCER OF THE LIVER	16	1.92
NON-MALIGNANT BREAST TUMORS	14	1.68
CANCER OF THE ESOPHAGUS	8	0.96
PERITONEAL CARCINOMATOSIS	8	0.96
G O I T H E R	6	0.72
CHRONIC APPENDICITIS	6	0.72
RETROPERITONEAL TUMORS	5	0.60
DIAPHRAGMATIC HERNIAS	3	0.36
CANCER OF THE THYROID	4	0.48
LUNG CANCER	4	0.48
ESOPHAGEAL STENOSIS	2	0.24
MISCELLANEOUS	127	15.26
TOTAL	832	100
MALIGNANT TUMORS	334	40.14

Table V

THE CAUSES OF EARLY POSTOPERATIVE DEATHS

CARDIORESPIRATORY FAILURE	31
PERITONITIS, TOXICOSEPTIC SHOCK	25
CARDIORESPIRATORY ARREST	8
INTRAOPERATIVE CARDIORESPIRATORY ARREST	5
PULMONARY EMBOLISM	4
STRESS ULCER	3
HEPATORENAL FAILURE	3
HEPATIC FAILURE	1
ACUTE RENAL FAILURE	1
SEVERE BRONCHOPNEUMONIA	1
ACUTE PULMONARY EDEMA	1

Table VI



Some of the general complications were as follows: bronchopneumonia, urinary infections, thrombophlebitis requiring prolonged anti-coagulant therapy, pulmonary infarction, acute pulmonary edema, myocardial infarction, cardiac arrhythmia etc.

Severe postoperative complications occurred in 83 patients who died (Table VI). Out of them there were 31 cases of cardiorespiratory failure, 25 cases of peritonitis with toxicoseptic shock, 8 cases of cardiorespiratory arrest. 4 cases of massive pulmonary embolism etc.

Comments

The available literature proves that through the past years, on the one hand, there have been no unanimous concepts concerning old age. Some researchers start from the age of 65, others from 70, and lately American authors have agreed on the age of 80, considering that it is foreseeable in the near future that 40% of the population in U.S.A. — will reach the age of 80. On the other hand, it is thought that the mean of life expectancy of individuals attaining the age of 80 further on would be more than 8 years, and in those reaching the age of 85, it would be over 6 years. Hence the necessity of surgical interventions, even of major operations in the elderly.

Schwandner and *Feustel* giving the postoperative results of 196 patients operated on the colon and rectum, aged over 75 years, have reported 6.1% total death rate. This low mortality of the elderly with a mean of 80.1 years, besides a risky intervention, such as colorectal surgery, in which procedures of high standard were used (various types of colorectal resections etc.), leads to the conclusion that under the present day circumstances of the development of surgery, in addition to the possibilities of preoperative preparation and postoperative care of the patients, age is no longer a major impediment to great interventions. Even our statistics prove this fact, if we think that the mortality in operations on the colon and rectum, with various types of resections, was 6.25% in patients with elective surgery. Although in the 15 cases having undergone emergency operations there were 9 deaths (60%), the total mortality in colorectal interventions in the 91 cases has reached 14.28%, a figure considered by us acceptable for colorectal surgery in the elderly (Table VII).

Another edifying example both in literature and in our experience is that of the lack of mortality in 50 interventions of breast cancer.

It is also surprising that the elderly can very well tolerate operation on the stomach and esophagus (with no pleural cavity opening). 158 patients operated on the stomach were both emergency and elective surgery cases, and there were only 18 deaths (11.39%). In this case, on classifying the interventions we found 4 deaths (13.33%) out of 30 emergency cases, and 14 death (10.93%) out of 128 elective surgery cases. If we leave out of the statistics the inoperable cancer cases with many deaths, i.e. 9 deaths out of cases (20.40%), we come to the conclusion that in the 49 operable gastric cancer cases and in the 35 operated peptic ulcer cases, i.e. in the 84 elective gastric operations, there were 5 deaths (5.9%). It should be mentioned that we had no deaths in the upper polar resection, but there were 2 deaths in 29 lower polar resections.

POSTOPERATIVE DEATHS IN COLO-RECTAL CANCERS

	OPERATION	CHRONIC			EMERGENCY			TOTAL		
		No. of patients	No. of deaths	Mortality %	No. of patients	No. of deaths	Mortality %	No. of patients	No. of deaths	Mortality %
COLO-RECTAL CANCERS 91 CASES RECTAL 52 COLONIC 39	Abdominoperineal resection	14	1	7.14	0	0	0	14	1	7.14
	Abdominal low and resection	9	0	0	0	0	0	9	0	0
	Hartmann's operation	6	2	33.33	3	1	33.33	9	3	33.33
	Right hemicolectomy	8	0	0	1	0	0	9	0	0
	Left hemicolectomy	2	0	0	1	1	100	3	1	33.33
	Sigmoidal colon resection	9	0	0	2	0	0	11	0	0
	Derivations	0	0	0	1	1	100	1	1	100
	Colostomy	10	0	0	7	6	85.7	17	6	35.30
	Simple laparotomy	18	1	5.55	0	0	0	18	1	5.55
	OPERABLE	48	3	6.25	7	2	28.57	55	5	9.09
	INOPERABLE	28	1	3.57	8	7	87.5	36	8	22.22
TOTAL	76	4	5.26	15	9	60.0	91	13	14.28	

Table VII

only one death in 15 total gastrectomies, 2 total esophagectomies with reconstruction were without any deaths, and there were 2 deaths in 35 chronic peptic ulcer cases (Table VIII).

The postoperative evolution of the elderly cannot be foreseen. There are patients who although well on in years are very active and respond

EARLY POSTOPERATIVE MORTALITY IN ESO-GASTRIC CANCERS

	OPERATION	No. of patients	No. of deaths	Mortality %
ESO-GASTRIC CANCERS 93 CASES	UPPER POLAR RESECTION	3	0	0
	INFERIOR POLAR RESECTION	29	2	6.90
	TOTAL GASTRECTOMY	15	1	6.66
	TOTAL ESOPHAGECTOMY	2	0	0
	JEJUNOSTOMY	5	2	40.00
	GASTROENTEROSTOMY	12	2	16.66
	LAPAROTOMY	27	5	18.52
	OPERABLE	49	3	6.12
	INOPERABLE	44	9	20.45
	TOTAL	93	12	12.90

Table VIII

well to operative traumatism. In other cases there appear debilitated, hypoproteic, anemic patients or some with a lot of associated diseases. in whom age is just another handicap, and it is added to the other concomitant affections. In this connection it is instructive to remember the 12 deaths of tumoral affections that set in after simple laparotomy, which proved the inoperability of such cases.

Table IX shows the situation of mortality in 1287 cases.

EARLY POSTOPERATIVE MORTALITY

MORTALITY AFTER ELECTIVE OPERATIONS : 40 OUT OF 832 = 4,80%

MORTALITY AFTER EMERGENCY OPERATIONS : 43 OUT OF 455 = 9,45%

TOTAL MORTALITY 83 OUT OF 1287 = 6,41%

Table IX

Thus, we had 40 deaths out of 832 elective operations, which means 4.80% and 43 deaths out of 455 emergency interventions, which represents 9.45%. Out of all the patients hospitalized at our clinic (1287 cases) 83 died, which is 6.41%.

If we subtract the 99 patients with average elective interventions implying no mortality from the total number of 1287 cases, the percentage reaches 6.99%.