

## Risk factors for complications and long-term survival after surgical treatment for gastric cancer in octogenarians

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*Introduction:* In industrialized countries, demographic studies have shown a considerable increase in the average life span and a progressive reduction in birth rate; as a result, the percentage of elderly patients out of the entire population is continuously increasing. The age group corresponding to 80 years and over has, proportionally, experienced the greatest increase. Therefore, surgeons must face the problem of treating octogenarian patients more and more frequently. Such is particularly true in the case of gastrointestinal neoplasms, which show the greatest incidence in the elderly. Surgical treatment of octogenarians requires special attention, given that, in these patients it is necessary to carefully weigh out operative risks versus actual benefits in terms of long-term survival and quality of life. In the present study, the results of surgical treatment of gastric cancer in octogenarian patients have been analyzed and compared with younger patients.

*Materials and Methods:* For this study, 1580 patients with primary gastric cancer observed at our Department in the period 1977-2003 (27 years) have been taken into consideration. The time period has been divided into three 9-year subperiods: period 1 (1977-1985); period 2 (1986-1994); period 3 (1995-2003). Operability, resectability, morbidity, mortality rates and long-term survival of octogenarians (group A) have been compared with younger patients (group B). Statistical analysis has been performed by using the chi-square test for comparison between groups, and the analysis of variance for numerical variables. Long-term survival has been

computed according to Kaplan-Meier method, by considering death for any cause as end-point.

*Results:* A total of 183 patients aged 80 years and over (11.6% of the total number) have been observed in the considered period. The relative percentage increased remarkably from period 1 (4.5%) to period 3 (19.1%,  $p < 0.001$ ). Operability rate was significantly lower in octogenarian with respect to younger patients (73.2% vs. 93.6%). On the contrary, in operated patients resectability rate (76.9% vs. 81.3%) and the rate of curative operations (78.6% vs. 79%) were similar in the two groups. No significant difference in the incidence of postoperative morbidity was found (group A: 32.1%, vs. group B: 25.9%), but an higher mortality rate was observed in octogenarians (12.7% vs. 5.8%,  $p < 0.005$ ). In octogenarians, postoperative mortality was particularly high after non-curative surgery and in patients with associated diseases. Overall 5-year survival rate (including death from any cause) of group A (24%) was significantly lower with respect to group B (34%). However, when considering only patients submitted to curative surgery, a lower difference was found (36% vs. 49%), and tumor stage was the most important prognostic factor; 15% of octogenarians treated by curative surgery survived more than 10 years.

*Conclusions:* The results of our study indicate that surgery for gastric carcinoma yields an acceptable operative risk in octogenarians, and provides good long-term results if oncological radicality can be obtained. Preoperative evaluation of tumor stage and patients' general conditions is useful to identify subgroups at high risk of surgical complications and mortality.