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# QUIMIOTERAPIA EN EL ANCIANO

**QUE HAY DE NUEVO ?**

# ASPECTOS EPIDEMIOLOGICOS RIESGO, INCIDENCIA Y PREVALENCIA

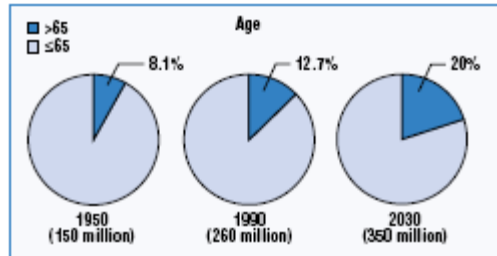


Figure 1. The US population is aging. Persons older than 65 were approximately 8% of the population (12 of 150 million) in 1950 and 13% (34 of 260 million) in 1990. This age group is expected to account for 20% of the population (70 of 350 million) in the year 2030. Adapted from Yancik.<sup>1</sup>

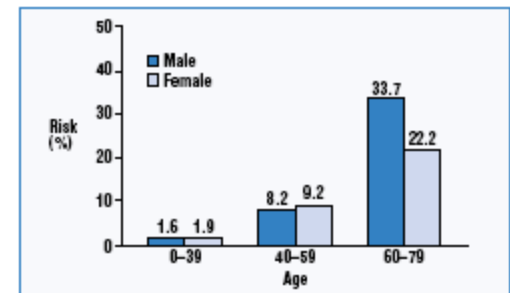


Figure 2. The risk of cancer increases with age. The combined incidence for all sites and types of cancer increases rapidly after age 60, especially in men. The overall lifetime cancer risks are 43.6% in men and 38.1% in women. Adapted from American Cancer Society.<sup>2</sup>

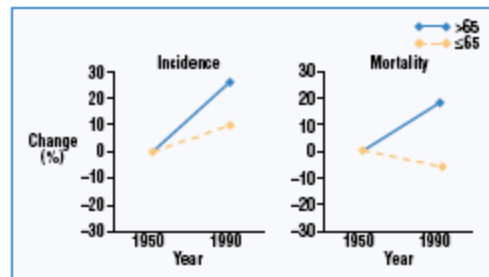
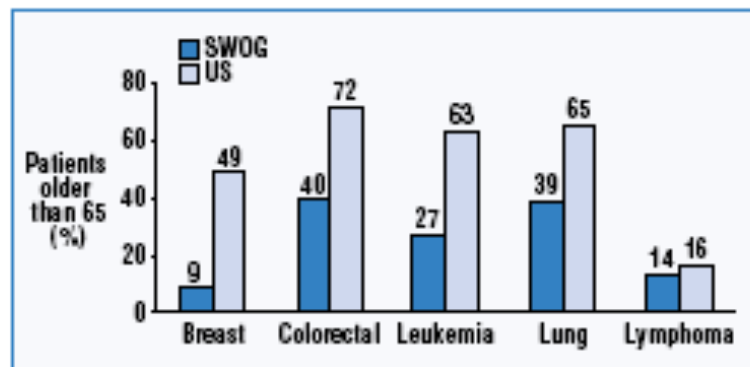


Figure 4. The changes in cancer incidence and mortality have been worse in the elderly than in younger patients. From 1950 to 1990 the incidence of cancer (all sites and types combined) increased by 26% in patients older than 65 but by only 10% in younger patients. The overall cancer mortality in that period increased by 15% in older patients and decreased by 5% in younger patients. Adapted from Lyman.<sup>1</sup>



*Figure 27. Clinical trials in cancer routinely exclude elderly patients. A review of 164 trials in 16,396 patients by the Southwest Oncology Group found that the percentages of patients older than 65 in the study populations were much lower than the percentages in the entire US populations with those types of cancer. This disparity was seen in all types of cancer except lymphoma. The greatest underrepresentation was in breast cancer—women older than 65 account for 49% of all patients with breast cancer nationwide but only 9% of the subjects in those trials ( $P < 0.001$ ). Adapted from Hutchins et al.<sup>74</sup>*

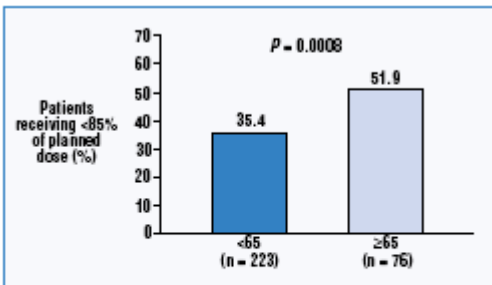


Figure 6. The likelihood of receiving the planned dose of chemotherapy decreases with age. In the same study cited in Figure 5, the proportion of the older patients receiving less than 85% of planned dose was significantly greater than that of the younger patients. Adapted from Crivellari et al.<sup>19</sup>

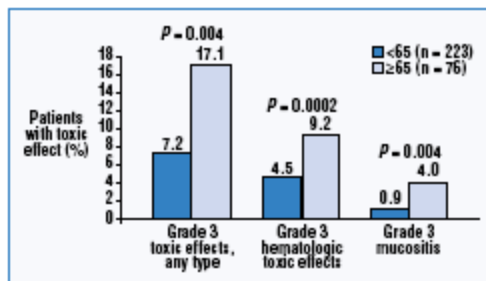


Figure 5. The incidence of toxic effects from chemotherapy increases with age. In a study in 299 postmenopausal women with breast cancer treated with CMF grade 3 neutropenia ( $ANC 500 \times 10^6/L$  to  $1000 \times 10^6/L$ ) was twice as common in women aged 65 or older as in younger women. Significant age-related differences were also seen in the rates of grade 3 mucositis and overall grade 3 toxic effects. Adapted from Crivellari et al.<sup>19</sup>

Table 1. Increase in Risk of  $\geq$ Grade 3 Hematologic Toxic Effects With Chemotherapeutic Drugs, by Patient Age

Chemotherapeutic drug	Increase in risk (%) <sup>a</sup>	
	Age 60–69	Age $\geq$ 70
Dactinomycin	94	319
Etoposide	91	155
Vinblastine	44	149
Methotrexate	25	119
Methyl-CCNU	27	52
Doxorubicin	12	42

<sup>a</sup>Increase in risk is calculated from the risk in patients younger than 60. Data are from 16,580 patients treated with 290 different regimens in 95 Eastern Cooperative Oncology Group trials. Adapted from Begg et al.<sup>21</sup>

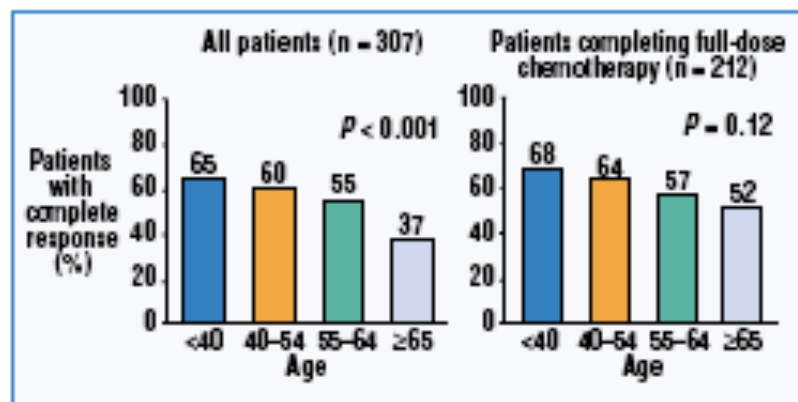
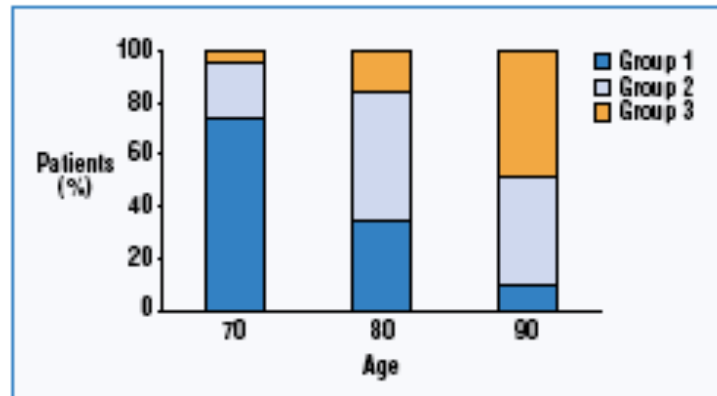


Figure 10. Standard (full-dose) CHOP produces comparable benefits in younger and older patients with diffuse histiocytic lymphoma. In a Southwest Oncology Group study, 307 patients were treated with CHOP, with or without adjunctive bleomycin and/or immunotherapy. The protocol required a 50% dose reduction in patients 65 or older, but 23 of these 81 patients were given full-dose treatment. The rate of complete response in the entire study population showed a statistically significant age-related decline. However, among the patients (regardless of age) who completed full-dose therapy, there were no significant age-related differences in the complete response rate, the duration of remission, or the frequency of treatment-related complications. Adapted from Dixon et al.<sup>25</sup>



*Figure 25. Health and independence progressively decline with age. In this theoretical model, group 1 is older patients who are otherwise healthy and fit, group 2 is patients with some degree of dependence in routine activities and no more than two comorbidities, and group 3 is frail patients who are dependent, with three or more comorbidities or at least one geriatric syndrome. With aging and increasing infirmity, the distribution of patients in this schema shifts as patients move from a lower- to a higher-number group. Adapted from Balducci and Extermann.<sup>7</sup>*

**Table 2.** Functional assessment tools

Tool	Assessment	Study
<b>Physical function</b>		
Charlson's Index	Comorbidity	Charlson et al. [52]
Cumulative Illness Rating Scale–Geriatric	Comorbidity	Miller et al. [53]
Risk Adjustment Index	Comorbidity	Desai et al. [54]
Mini-Nutritional Assessment	Nutrition	Guigoz et al. [55]
Instrumental Activities of Daily Living	Activities of daily living	Lawton [56]
Timed Up and Go	Mobility	Podsiadlo et al. [57]
Frailty Assessment (Cardiovascular Health Study)	Functionality	Fried et al. [58]
Vulnerable Elders Survey	Vulnerability	Saliba et al. [59]
<b>Neuropsychologic function</b>		
Mini-Mental Status	Cognition	Folstein et al. [60]
Geriatric Depression Scale	Mood	Naeim and Reuben [61]
Distress Thermometer	Distress	Patrick-Miller et al. [62]
<b>Multidimensional tools</b>		
Cardiovascular Health Study	Healthy adult screen	NHLBI [16]
Functional Assessment Screening	Multidimensional screen	Lachs et al. [63]
Comprehensive Geriatric Assessment	Multiple tools	Extermann et al. [64]
<b>Cancer-specific tools</b>		
Geriatric Oncology Module	Functionality, quality of life	Presant et al. [17]
NCCN Guidelines	Treatment screening	Balducci [13]; NCCN [15]
Functional Assessment of Cancer Therapy–Geriatric	Function during treatment	Cella et al. [65]

Abbreviations: NCCN, National Comprehensive Cancer Network; NHLBI, National Heart, Lung and Blood Institute.

# CGA

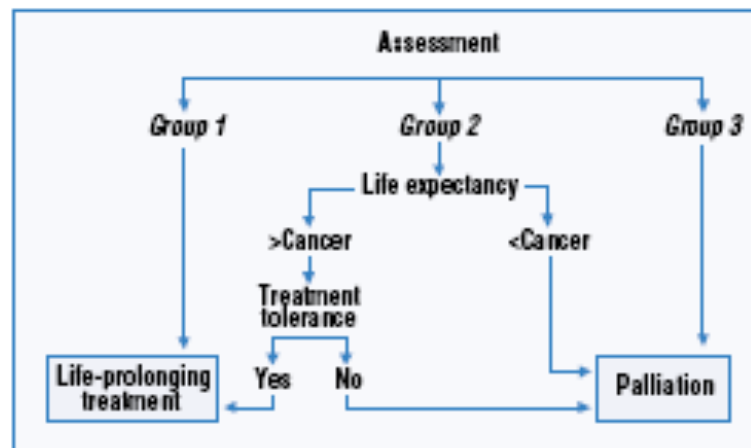


Figure 26. The management strategy in elderly patients with cancer is based on the full workup, including the CGA, and their classification as group 1 (otherwise healthy and fit), group 2 (partially dependent and with no more than two comorbidities), or group 3 (frail, dependent, with three or more comorbidities or a geriatric syndrome). Patients in group 1 can receive standard treatment aimed at cure, and those in group 3 should receive palliative treatment only. The decision in patients in group 2 is based on whether their life expectancy without cancer would be greater or less than it would be with the cancer left untreated and whether they could tolerate cancer treatment. Adapted from Balducci and Extermann.<sup>7</sup>



# COMO AMINORAR TOXICIDAD EN VIEJOS

*Table 3. Recommended Guidelines for Minimizing the Toxic Effects of Chemotherapy in Elderly Patients*

- Use hematopoietic growth factors (eg, G-CSF) in patients >70 treated with combination chemotherapy with a dose intensity equivalent to that of CHOP
- Use erythropoietin to maintain hemoglobin concentration at  $\geq 12$  g/dL
- Consider dose adjustments of renally excreted drugs according to patient's GFR

*Adapted from Balducci and Yates.<sup>70</sup>*

## **International Society of Geriatric Oncology (SIOG) recommendations for the adjustment of dosing in elderly cancer patients with renal insufficiency**

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available. The taskforce recommend that before initiating therapy, some form of geriatric assessment should be conducted that includes evaluation of comorbidities and polypharmacy, hydration status and renal function (using available formulae). Within each drug class, it is sensible to use agents which are less likely to be influenced by renal clearance. Pharmacokinetic and pharmacodynamic data of anticancer agents in the elderly are needed in order to maximise efficacy whilst avoiding unacceptable toxicity.

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# CONCLUSIONES

- **La edad avanzada no contraindica quimioterapia.**
- **La VGI es necesaria previamente a la QT.**
- **Decisión del paciente.**
- **Las drogas son las mismas, se deben modificar de acuerdo a los cambios en farmacocinética, farmacodinamia.**
- **Valorar disponibilidad y costos**
- **Nuevos estudios que incluyan ancianos, teniendo en cuenta la fisiología.**