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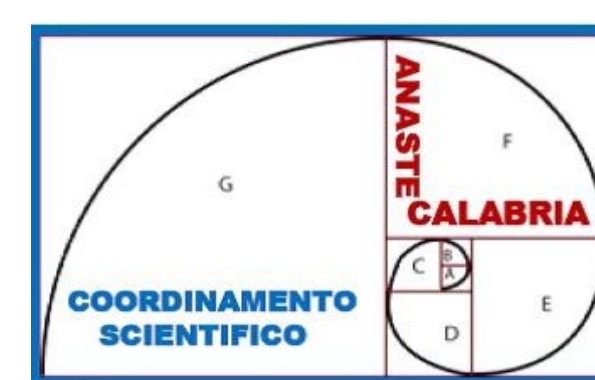
POTENTIALLY INAPPROPRIATE MEDICATION AND ANTICHOLINERGIC BURDEN IN NURSING HOME RESIDENTS ANASTE CALABRIA

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Background:

The adoption of models for assessing and monitoring potentially inappropriate prescriptions (PIMs) is an effective tool for measuring and improving the quality of care in the elderly residential population: many drugs commonly used in the elderly have primary or secondary anticholinergic effects that cause mild to severe and even life-threatening adverse events (1). These drugs, which block muscarinic receptors, are used to treat a wide range of conditions and diseases frequently represented in elderly populations, such as urinary incontinence, hypertension, respiratory disorders and depression. The cumulative effect of multiple drugs with anticholinergic properties is termed "anticholinergic burden" and, in the elderly population, is associated with the risk of falls, fractures, cognitive impairment, pneumonia and hospitalization. The aim of this study is to evaluate the relationship between anticholinergic burden and adverse event correlated to PIM in nursing home residents.

Methods:

A retrospective observational study was conducted on 240 elderly people admitted to 7 Nursing Homes ANASTE in Calabria. Pre-

scribing appropriateness was assessed by applying the Beers criteria (revised in 2012). The list of PIMs according to Beers covers three drug groups: PIMs potentially inappropriate for the majority of the elderly population; inappropriate PIMs when used in the elderly with particular diagnoses, and drugs to be used with caution. The incidence of falls, delirium, arrhythmias and acute urinary retention was assessed in the group of patients exposed to PIM.

Results:

45% of the examined patients resulted exposed to at least one PIM, in particular 30% received an inappropriate drug, 10% two, 2.9% three or more drugs. The selected sample (36% males mean age 78.6 ± 6.3 ; 63.8% females mean age 83.1 ± 7.6) was affected by vascular dementia in 31.40%, senile dementia in 20.30 %, Alzheimer's dementia in 15.70%, Ischemic stroke in 10.50%, Heart failure in 5.50%, Parkinson in 3.70% and frontotemporal dementia in 1.85%. The following PIMs have been identified according to Beers criteria. Only 18% of patients received shredded therapy. During the observation period, 8.6% of patients suffered a fall, 1.90% experienced arrhythmias, 4.8% delirium and 0.96 acute urinary retention. Falls occurred

for 33% in patients taking BDZ with a short half-life and with increased comorbidity (CI: 5.8; CI: 2.5), while the delirium occurred exclusively in patients treated with antipsychotic drugs. All adverse events are more frequent in those taking 2 PIMs (77% for falls and 60% for delirium).

Discussion:

The use of drugs with anticholinergic properties is widespread among the elderly. Patients admitted to nursing homes are particularly fragile, of great clinical complexity and the majority suffer neurodegenerative diseases. Delirium and falls can be prevented in more than a third of cases by intervening on modifiable factors, such as minimizing the anticholinergic load in order to improve the clinical appropriateness and quality of life of the elderly patient.



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Conclusions:

This study confirms the necessity to develop a strategy that can reduce PIMs among nursing home residents such as avoiding the use of inappropriate and high-risk drugs. Indeed representative pharmaco-epidemiological and drug supervision studies of this specific population are needed to bridge the gap between pharmacological evidence and clinical relevance.

References:

1. Collamati A, Martone AM, Poscia A, Brandi V, Celi M, Marzetti E, Cherubini A, Landi F. Anticholinergic drugs and negative outcomes in the older population: from biological plausibility to clinical evidence. *Aging Clin Exp Res.* 2016