

## ORO-DENTAL IMPLICATIONS IN ELDERLY PATIENTS WITH CHEST PAIN SYNDROME

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### ABSTRACT

Chest pain, particularly anterior chest pain, is one of the most common symptoms, with multiple pathological implications, especially in individuals over the age of 65, due to the wide range of possible underlying conditions.

According to the International Association for the Study of Pain (IASP), the definition of pain has become more comprehensive, incorporating cognitive, emotional, and behavioral aspects.

From this perspective, we conducted a retrospective study on a group of 133 patients evaluated in internal medicine/cardiology clinics and dental offices. The average age was 60.5 years. The most frequently encountered pathology was coronary disease, particularly of ischemic type with multiple locations. In 3.8% of cases, a complex differential diagnosis was required due to the presence of diverse associated conditions.

### INTRODUCTION

Acute pain is distinguished from chronic pain based on parameters such as duration, etiology, mechanism, and the patient's psychological and social state, as outlined by the International Association for the Study of Pain (IASP). The underlying cause of pain in somatic and visceral conditions involves the release of substances that act as neuromediators and vasoactive agents. These substances influence nociceptors either indirectly through local biochemical changes or directly via mechanical or chemical actions. Microcirculation is affected by vasoconstriction, altering capillary permeability and increasing the levels of

allogenic substances like serotonin, histamine, and bradykinin, thereby stimulating nociceptive responses.

Peripheral nerve involvement and known inhibitory influences in patients with diabetes mellitus or postherpetic neuralgia impact synaptic transmission at the level of the posterior horn cells in the spinal cord. This may explain the persistence of pain and alterations in its defining parameters (duration, intensity). Additionally, psychological stress can release allogenic substances, leading to skeletal muscle spasms, local vasoconstriction, visceral dysfunction, and oro-dental pain, thereby exacerbating local functional impairment and

affecting the patient's quality of life. These stimuli induce algogenic responses with reflex and affective reactions, intensifying the initial stress.

## MATERIALS AND METHODS

A meta-analysis of anterior chest pain in individuals over 65 years, with an average age of 60.5 years, evaluated between July 2022 and July 2024, included 230 hospitalized cases with cardiovascular conditions such as essential hypertension, chronic coronary syndrome, arrhythmias, atrial fibrillation, stable and unstable angina, and acute coronary syndrome. Among these, 3.8% required a complex differential diagnosis due to the presence of oro-dental symptoms, necessitating both dental clinical and radiological evaluations, as well as extensive paraclinical investigations, including myocardial necrosis enzyme determinations, inflammatory biomarkers, chest radiographs, esophagogastroduodenal fluoroscopy, endoscopies, electrocardiograms, echocardiograms, and myocardial scintigraphy.

In some instances, the ineffectiveness of coronary vasodilator and analgesic therapy over seven days, along with electrocardiographic and enzymatic monitoring, led to the diagnosis of thoracic herpes zoster or encapsulated pleuritis in two female patients evaluated for unstable angina. Other cases, where pain persisted regardless of therapy, required electrocardiographic monitoring (ECG), enzymatic assessments, or 24-hour ambulatory blood pressure monitoring (ABPM).

## RESULTS AND DISCUSSIONS

Differentiation of chronic coronary syndrome, particularly its acute exacerbation (ACS), from other conditions was achieved through clinical evaluation, revealing repetitive anterior chest pain localized

predominantly in the presternal area, radiating paravertebrally posteriorly under the acromion, in the left hemithorax, occurring during both exertion and rest. Patients with an average age >60.5 years, hypertension (3 cases), type 2 diabetes mellitus (3 cases), class II–III obesity with BMI >36.8 kg/m<sup>2</sup> (2 cases), or non-obese individuals without essential hypertension but with a history of chronic pulmonary disease and sympathomimetic abuse (2 cases) were identified.

Coexisting conditions included:

- Constrictive pericarditis in a corticosteroid-dependent asthmatic patient.
- Fixed hiatal hernia in a patient with chronic ischemic heart disease.
- Large lower esophageal diverticulum in a patient with obesity, essential hypertension, and chronic ischemic heart disease.
- Thoracic left-sided herpes zoster appearing seven days post-admission in a patient with extrasystolic arrhythmia and ischemic ECG changes.
- Encapsulated pleuritis in a patient with chronic ischemic heart disease and NYHA class III chronic heart failure.
- Old left diaphragmatic rupture with left hemidiaphragm elevation in a patient with painless chronic ischemic heart disease and NYHA class II–III chronic heart failure.

Individualized pain management required complex therapeutic schemes, both oro-dental and clinical-laboratory monitoring, along with a thorough pain history reassessment.

## **CONCLUSIONS**

Anterior chest pain is a common symptom in medical practice among individuals over 65 years, due to the multitude of conditions it can mimic. The most frequently implicated pathology is coronary artery disease (60.8% of cases), underscoring the necessity for routine electrocardiographic and/or echocardiographic investigations.

The presence of associated pathologies, particularly those within the oro-dental

sphere, can lead to complications requiring extended specialist investigations. This necessitates the use of imaging and interventional radiology techniques in individuals over 65 years, as well as the application of complex, age-adapted therapeutic schemes, including oro-dental interventions (personalized and differentiated therapy).

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