EFFECTIVE TREATMENT WITH DEXMEDETOMIDINE FOR SEVERE BRONCHOSPASM AFTER PLEURODESIS PROCEDURE

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Background: The role of dexmedetomidine solving a case of postoperative bronchospasm in a patient who underwent pleurodesis.

Case report: A 63 years old male and 75Kg patient was programmed for pleuroscopy and pleurodesis under sedation. Throughout the procedure, patient suffered cough and mild subcutaneous thoracic emphysema. Previous diseases: right pulmonary effusion and upper lobe lung neoplasia. Allergy to metamizol. Usual treatment with inhaled foster. After 2 hours at the PACU, sudden increase of subcutaneous emphysema radiating to neck and face with impaired fonation and cough started. Pleural drainage was repositioned and severe bronchospasm appeared. 0.4mg IM Adrenaline, 10mg IV ketamine and 1,5g IV magnesium was given and placed a 2nd drainage. A continous intravenous infusion of dexmedetomidine 0.5-1 mcg/Kg/h was used, disappearing dyspnea.

Discussion: In vitro studies of human and animal bronchial tissue indicate that alpha2-adrenoceptor stimulation lead to smooth muscle relaxation. This effect seems to be mediated *via* a presynaptic mechanism¹. Dexmedetomidine has been approved for clinical use for sedation of patients who need mechanical ventilation in the intensive care unit. Alpha2-Adrenoceptor stimulation with intravenous dexmedetomidine blocked histamine-induced bronchoconstriction in dogs². Therefore, dexmedetomidine might be beneficial to decrease airway reactivity in patients with chronic obstructive pulmonary disease or asthma³.

Learning points: Intravenous administration of dexmedetomidine in low doses is an effective treatment to attenuate bronchospasm. Dexmedetomidine could have bronchoprotective effects and might have additional advantages for patients with asthma or chronic obstructive pulmonary disease.

References:

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