



## SIET EXPERT'S ROUND TABLE

### MANAGEMENT OF THE AIRWAYS INJURIES IN COVID-PATIENTS: FEATURES, DIAGNOSIS, TREATMENT AND CLINICAL CASES

The “Expert opinion” on the diagnosis and management of upper airway lesions in COVID-19 patients

#### PRECONDITION

The terrible spread of the SARS-Covid-2 (COVID-19) pandemic in the past 5 months has been characterized by the high incidence of interstitial pneumonia. The disease is associated with an acute condition with severe hypoxemia and bilateral pulmonary infiltrates and around 5% of patients with COVID - 19 may have clinical conditions that require hospitalization in intensive care with the need for ventilatory assistance and endotracheal intubation.

The pathogenesis is still mostly unclear, there is evidence that in addition to viral lung damage to pneumocytes there is endothelial damage capable of triggering a widespread inflammatory burst responsible for the rapidly progressive clinical setting evolving towards an ARDS like scenario.

The clinical experience and preliminary data reported in the literature often suggest a minor efficacy of non-invasive ventilation for correct the hypoxemic defect and the early intubation and protective mechanical ventilation remain the cornerstones of treatment, that is not yet defined at all. Moreover, the damage to the lung is persistent, requiring prolonged care ventilation and the special setting of ventilation such as prone position ventilation.

The specific respiratory dynamic, the high rate and duration of tracheal intubation have favoured the inevitable risk of upper airways injuries, in particular, lesions mechanically induced to the trachea and the laryngotracheal tree, in addition to lung injury related to barotrauma.

The high rate of infectivity of disease, the difficulties encountered in the availability and management of personal protection equipment to reduce the risks of contagion, the difficulty encountered in the reorganization of the local health systems starting from the A & E department, the diagnostic imaging unit and the use of inadequately trained staff has further exacerbated the risk of these injuries.

The COVID-19 high rate of lethality, prevalent in frail elderly subjects, although it has not yet been sufficiently explained. It is plausible that iatrogenic complications have been underestimated and have contributed to the increased mortality rate, especially in conditions of severe overload of the health system.

The diagnosis and correct management of iatrogenic lesions have also suffered due to the shortcomings typical of an emergency.

Among the main clinical pictures related to iatrogenic injury we have to remember: injuries from mechanical trauma as in early lesions of the trachea by intubation and in the risk of late lesions associated with prolonged intubation (tracheal stenosis and tracheoesophageal fistulas), injuries from barotrauma with lesions of small and medium-sized airways (pneumomediastinum, pneumopericardium) and pulmonary parenchyma (pneumothorax, pneumatoceles).

## OBJECTIVES

The purpose of the WEB Expert panel is to describe the pathogenesis of these lesions, illustrate the prevention mechanisms, provide indications about the correct diagnosis and treatment and finally comment on the current status based on clinical experience through discussion of clinical cases.

## PROGRAMME

### DAY1

- Presentation and moderation of the Round Table ([Prof Franca Melfi](#))
- Diagnostic and conservative treatment of tracheal and laryngotracheal lesions, role and modality of execution of bronchoscopy in COVID-19 patient (Discussion points on DPI in bronchoscopy- disposable bronchoscopy devices- role of endprosthesis) ([Prof Rocco Trisolini- Dr Alessandro Ribechini](#))

### DAY2

- Physiopathological mechanisms of lung damage related to intubation and ventilation manoeuvres in the COVID 19 patient and prevention systems (Discussion points on difficult intubation - ventilation pressures - timing of tracheostomy and modality of tracheostomy) ([Dr Massimiliano Sorbello- Prof Francesco Forfori](#))
- Surgical treatment of acute traumatic lesions of the trachea and laryngotracheal axis (Discussion points: Intraoperative management of the COVID-19 patient) ([Prof Alexander Patterson](#))
- Surgical treatment of later occurring lesions of the trachea and laryngotracheal axis (Discussion points: incidence and expected prevalence in Covid-19 era of tracheal and laryngotracheal stenosis and tracheoesophageal fistulas) ([Prof Erino Rendina](#))

### DAY3

- Pneumomediastinum and pneumopericardium in COVID-19 patients, incidence-pathogenesis - conservative and surgical management. (Discussion points for management of emphysema disputes on surgical treatment) ([Prof Enrico Ruffini](#))
- Barotrauma and pneumothorax in the COVID-19 patients, pathogenesis incidence and treatment indication (Discussion points: treatment of persistent pneumothorax - Management of pleural drainage and risks of air diffusion - need for new valve devices with filter) ([Prof Alan Sihoe](#))

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