

Research Article

Interest of Spo₂ in early detection of the pre-IRCO phase during stable COPD classified in GOLD2 (2019)

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Introduction and Definition:

Traditionally, chronic obstructive respiratory failure (CIRI) is defined as a Pao₂-lt; 60 mmHg, it is the final stage of any chronic obstructive pulmonary disease (COPD).the lung becomes incapable of ensuring satisfactory oxygenation of arterial blood.

Early detection of the pre-IRCO phase during the evolution of any stable-looking COPD will set the warning of the unexpected occurrence of life-threatening stage respiratory failure that interferes with normal breathing, i.e. Measuring peripheral oxygen saturation (Spo₂) appears to be a marker of great interest that will allow the selection of COPDs that have potential that can become complicated and quickly reach the stage of respiratory.

Epidemiological Recall:

According to WHO:.

- In 2015 more than 3 million DEATHS from COPD-secondary IRCO worldwide
- In 2016, more than 250 million people are reached worldwide.

- It will occupy the 3rd place of mortality in the world by 2030 due to the rise of smoking and pollution.

Interest in the study:

Periodic stress assessment of peripheral oxygen saturation (Spo2) in patients with stable COPD classified in Gold 2 (2016) .

Materials and Methods:

Material:

Effort evaluation of Spo2 in a sample of 95 patients followed at our level for COPD Gold 2 for 2 years.

Female sex is excluded from this study for reasons of social customs,

Age between 42 and 65 years old.

No comorbidity associated with it.

D2/ Method. normal Spo2 values between 95% and 100%.

Stress test: 15-minute brisk walking, recovery oxygen therapy in patients with signs of acute hypoxia with significant flexing - 3 points.

Findings: Clinically:

- All showed a breathlessness of varying intensity, cyanosis of the extremities with respiratory rate - 30 cycles/mn observed in 11% of patients
- average heart rate 110 beats/mn.
- non-significant changes in blood pressure. 2-/ measure of Spo2 :

2a - there are two groups:

Group 1: represents 11% of the cohort

- Presents a DEM 25-75% on average - 25%

Spo2's significant decline, a loss of 5 points on average below the lower limit of the safety interval - 95-100%

- group 2: represents 84% of the cohort

Presents to spirometry a DEM25-75% on average - 60% No significant change in Spo2 to stress.

2b- recovery after oxygen therapy involved the first group whose Spo2 is declined significantly to 95%, with clinical signs of acute hypoxi

Finding: A slow, persistent response of Spo2 to the underside of the safety interval (95-100%) despite clinical improvement.

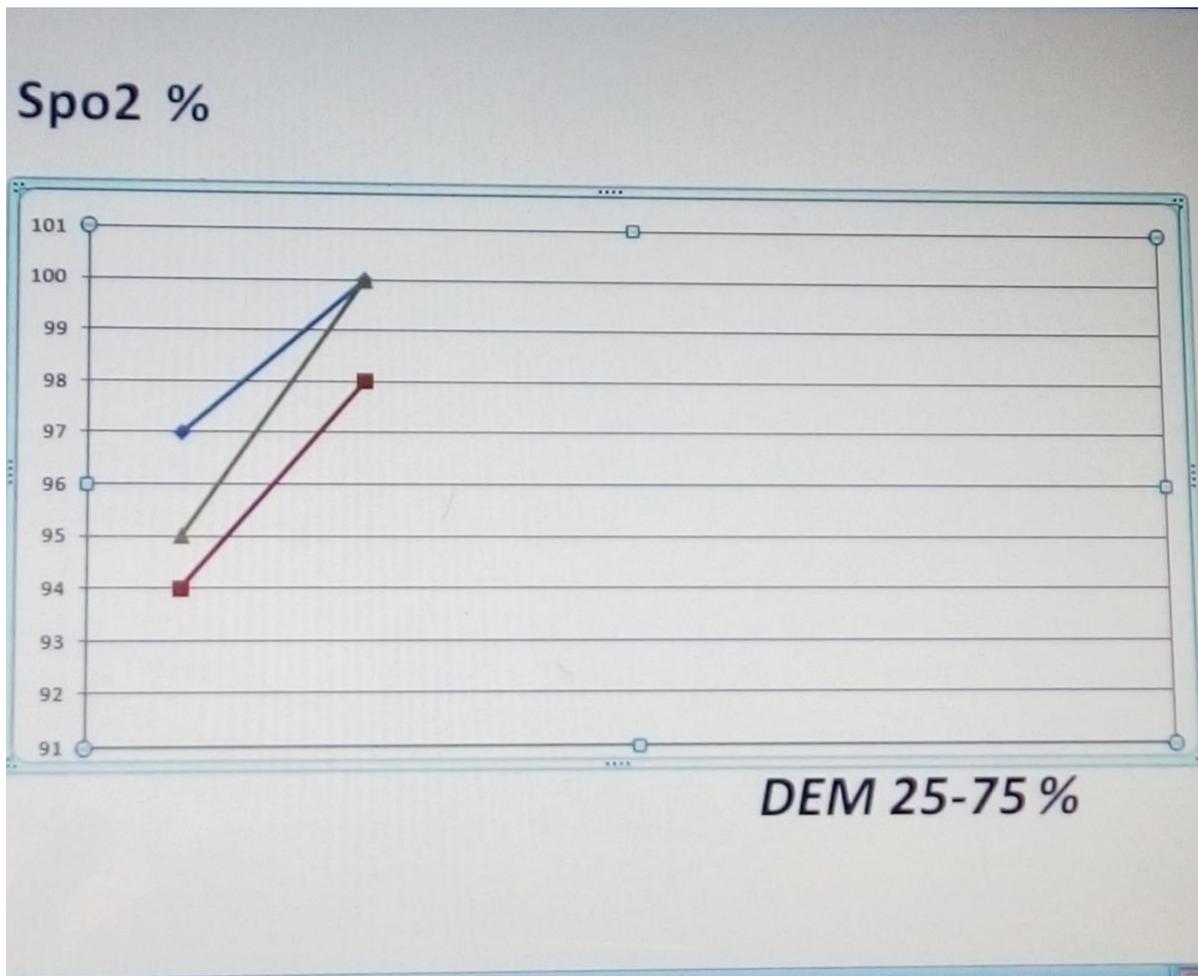
Graphic illustration

The underlying graph illustrates the variations in Spo2 before and after stress in both groups:

Before the effort: The blue curve: includes 2 points:

1- Top point represents the average of resting Spo2 of 84 patients at DEM 25-75% - 60%
lower point represents the average of Spo2 of the 11 patients at DEM 25-75% - 25%

- After effort: the Red curve illustrates the decline of Spo2 in both groups there is a significant drop in Spo2 in COPDs with a very limited DEM25-75% (up 25%).
- Oxygen therapy recovery: (green curve).
- The lower point of the green curve marks the slow recovery of the Spo2. In the group that wears a DEM 25-75% -25%



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Discussion:

At rest the Spo2 remains stable for a long time during the evolution of COPD, this stability seems to be maintained by the revascularization of dead spaces, chest distension and secondly by the reactional polyglobulia that results in a countervailing element of great role.

During the effort the Spo2 degrades according to the degree of limitation of the distal air flow, its persistence below the safety interval despite an adequate oxygenation sign of a possible transition to respiratory failure of insidious

evolution , hence the interest of a gasometry.

Conclusion:

The severe and irreversible insidious progression of chronic obstructive pulmonary disease to obstructive chronic respiratory failure prompts us to periodically monitor Peripheral oxygen saturation (Spo2 after stress) in stable-looking COPDs that have a severe limitation of distal airflow (DEM 25-75%) this easy and innocuous practice will allow us to detect early the pre-respiratory failure phase and thus improve quality of life and decrease mortality rates.

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