

HEURISTICS OR ANALYTICAL?

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INTRODUCTION:

Prototype errors, or representative errors, appear for atypical patients. The doctors employ a thinking system based on patterns and element recognition. Bias thinking is one of the key factors for diagnostic errors. Elements that contradict one another are intentionally overlooked so that the remaining pieces fit perfectly in the puzzle.

LEARNING OBJECTIVES:

The determination of the correct diagnostic can be sidetracked by atypical disease presentations or by diseases unseen by the doctor. This is why all of the trained medical staff should collaborate by making use of their own references in order to reduce the incidence of misdiagnosis.

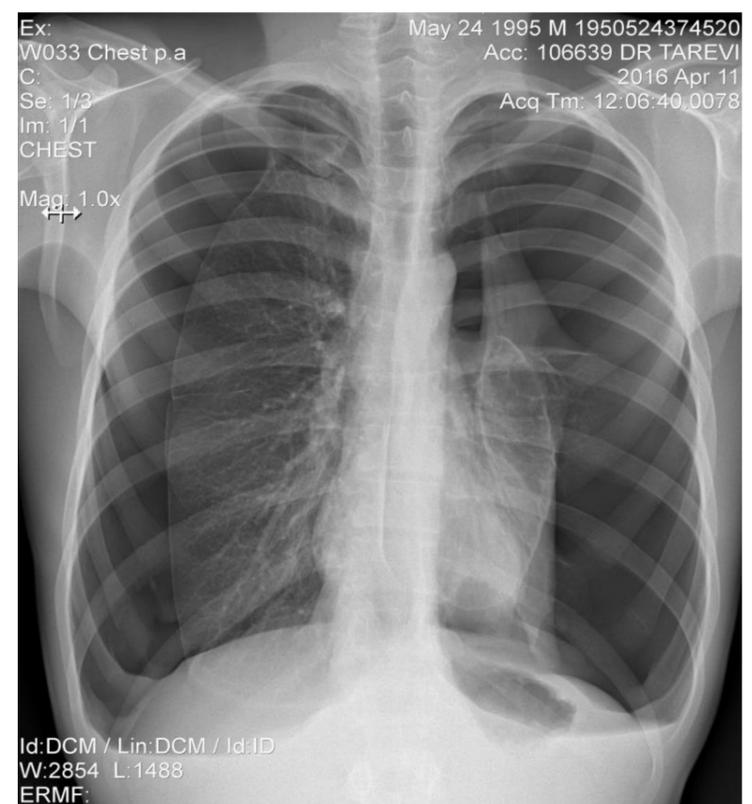
CASE DESCRIPTION

A 20-years-old, who came to the hospital showing a stage II dyspnea (mMRC scale), emphasized under effort and accompanied by chest pains. The symptoms manifested two days prior to his arrival at the hospital, after the patient underwent a medium physical effort.

At that moment, he was consulted by a general physician who performed a clinical exam. Due to limited resources, the physician did not take a chest X-ray of the patient and diagnosed him with mild muscular fever.

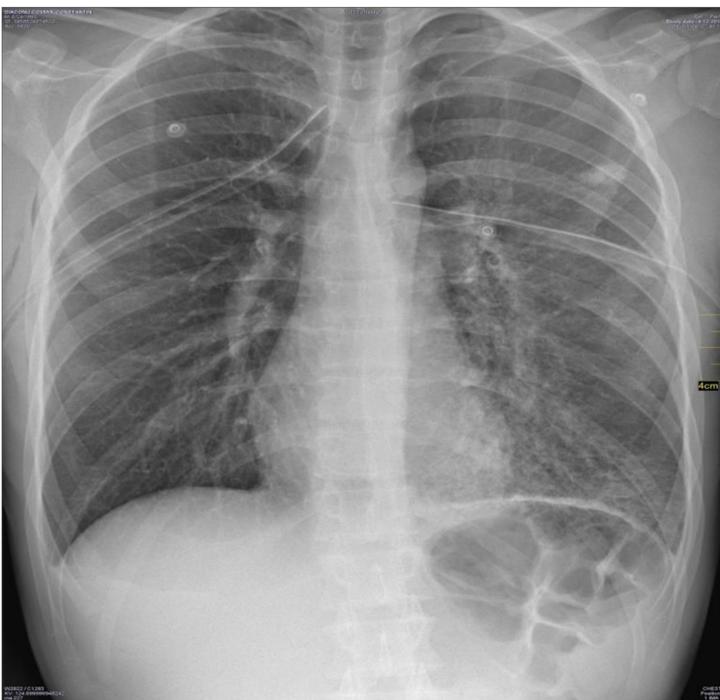
Later that day, the young man went to a pharmacy to purchase over the counter painkillers. After talking to the patient, the pharmacist recommended a combination of potassium and magnesium which would relieve his chest pain. This measure indeed made the pain diminish, but not completely.

Troubled by the persistence of the chest pain, the young man looked for a second opinion and addressed our medical facility. The clinical exam revealed pale teguments, diminished breath sounds with a peripheral oxygen saturation of 97% and a heart rate of 98 bpm.



Massive bilateral pneumothorax

This collected data was then introduced in a clinical decision support system, which outlined a pneumothorax as a potential diagnosis. This clinical context has raised the procedural standards for a chest X-ray, therefore the patient was submitted to this exam. The following results showcased the presence of a massive bilateral pneumothorax that prompted an urgent thoracic surgery!



Chest X-ray after the surgery

DISCUSSION:

This presentation showcases the importance of medical staff collaboration and regular use of CLINICAL DECISION SUPPORT SYSTEMS IN REDUCING THE INCIDENCE OF MISDIAGNOSIS. Although the patient arrived at the hospital on his own and the correct diagnostic and remedy were given in time, the consequences could have been disastrous if he might have decided to just follow the initial treatment.

CONCLUSIONS:

- The importance of medical staff collaboration in reducing the incidence of misdiagnose.
- The patient's involvement in the diagnosis process.

REFERENCES:

1. Groopman J., Hartzband P., Thinking about our thinking as physicians, *ACP Internist*. 2011 Oct.
2. Fried T.R., Shared Decision Making – Finding the Sweet Spot, *N. Engl. J. Med.* 2016 Jan.

TAKE HOME MESSAGE: Can thinking about your thinking help prevent medical errors?

The authors declare that there is no conflict of interest