



Editorial

Comparison: A great diagnostic tool

One of the main tasks of the radiologist is to read the studies and issue a diagnosis based on the analysis of the diagnostic images. Comparing the analyzed images with previous ones adds great value to the final result of this work.

In some areas, such as oncology, there are standardized systems for comparing the findings of neoplasia in order to establish the evolution of the disease and make fundamental decisions about the treatment of the patient. The RANO criteria (response assessment in neuro-oncology criteria) for the evaluation of brain tumors, the RECIST criteria (response evaluation criteria in solid tumors) or the Lugano criteria for the evaluation of lymphomas are some of the most used. In all of them, parameters are established that generally include the measurement of the size of neoplasms, which makes it possible to establish, through the comparison of studies over time, if the oncological disease is in remission, is stable or progresses.

The criteria of dissemination in time and space in the evaluation of magnetic resonance imaging in patients with multiple sclerosis allow to know the evolution of this disease in a standardized way and give objective tools to the neurologist to establish if the disease progresses or improves and allow him to make treatment decisions.

Comparing makes the difference between a benign pulmonary nodule and an indeterminate or malignant pulmonary nodule. If this is visible in the previous radiography, without change in size and morphology, the patient will certainly not require complementary studies, even if the chest radiography is part of the evaluation of the extent of a new neoplasm.

A thoracic opacity that looks like a pneumonia, but is unchanged in a study performed months ago, is surely not a pneumonia, whose natural evolution would be the disappearance, and will be the alert to consider other diagnoses, such as pulmonary or bronchial neoplasia that

explains why this opacity has not improved. On the other hand, not comparing can delay the diagnosis of diseases that can compromise the patient's life. In fact, not comparing can become a substrate for medical malpractice claims.

Comparison of brain atrophy in successive images of the brain, whether magnetic resonance imaging or computed tomography, is a key diagnostic element in cognitive disorders. Atrophy that progresses rapidly, as opposed to atrophy that has remained stable, regardless of the degree of atrophy, is a diagnostic element of entities such as Alzheimer's disease.

The analysis of a magnetic resonance of the spine in conjunction with previous x-rays facilitates some diagnoses. The "queen test" for counting lumbar vertebrae and for diagnosing transitional vertebrae is simple radiography. Spondylolisthesis, which is easily seen on simple x-rays taken with the patient standing and with dynamic projections, may not be as evident on the patient's own MRI; comparison of the two techniques may make it easier to establish the cause of spinal narrowing in the spondylolisthesis segment.

If a magnetic resonance is analyzed in the patient who has undergone spinal surgery, having simple x-rays that clearly show the instrumentation used, the alignment and dynamics of the spine, will facilitate the diagnostic exercise of the image of the spine in the postoperative period.

In the area of mammography, the analysis of the findings in comparison with previous studies improves the sensitivity for cancer detection and decreases the percentage of "refill" to make additional projections, which, in addition to improving the effectiveness of the examination, avoids generating anxiety in patients before a "dubious" diagnosis.

The picture archiving and communication system (PACS) that we have in the 21st century makes it easier to compare studies, especially if the patient is in a health

system that makes their images always done in the same place and that they are all available in the same PACS system.

In a practical way, reviewing what the previous diagnosis was - our own or that of one of our colleagues - will surely guide the diagnosis we are making and prevent us from omitting to mention findings that have already been noted.

These examples are a small sample of the usefulness of comparison with previous studies as a fundamental tool in the reading and diagnostic work that we radiologists carry out daily. It is a useful tool for making more accurate diagnoses, which can sometimes change diametrically if the findings of previous images are not taken into account, and is therefore indispensable in reducing medical error. It is also useful for making therapeutic decisions in chronic diseases such as cancer or multiple sclerosis. In short, it is useful to offer the patient a better quality diagnosis.

Although including the subtitle "comparison" in radiological reports is a recommendation of good practice in its elaboration, we do not always do this. This is an invitation to use this tool in our daily work. Although it may increase reading time, its benefits will surely show that it is very well spent time.

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