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Opinion

Interpretation and Diplomacy Aspects of Authority and Care in Imaging Reports

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Abstract

Whereas the creative performance of the physician for nuclear medicine is measured against his/her written report, the value of the message will not only be judged by the precision of the medical statement. The same result can be attributed to different words. Numerous habitual and accidental factors exert influence on the decision on what is said and what is not said, how it is assessed, and what is ignored. The less certain a diagnosis is, and the less favorable its possible consequences are, the more subtleties and paraphrases should be expected within the report. The decision on the nature and the volume of the written report will not only be taken by the time of recording, but the way is prepared by the knowledge of the patient's history and symptoms, the personal relationship to him/her as well as by a set of conditions throughout the inspection of the images. The intuitiveness accompanying the information transfer in imaging diagnostics does not only explain the differences in volume and depth of diagnosis and differential diagnosis but also the range of diagnostic and therapeutic recommendations.

Keywords: Empathy, imaging report, interpretation, objectivity, recommendation

Introduction

The intellectual performance aligned with the records of diagnostic imaging is also referred to as interpretation.[1] However, this term describes only incompletely the inquiry that comes about by stages. It suggests to the reader that the physician for nuclear medicine reads a finished product like the philologist a poem or the musician a score. However, the image is an object, the production and quality of which is essentially influenced and the properties of which can be modified by the analyst. In addition, and that applies to all steps of the evaluation, the examiner is determined by a series of conditions, that are more or less foreseeable, that are perceived more or less intentionally and that unfold more or less strong effects. What will finally be expressed in the record and in which words the message will be clothed, is initiated in the approaches and the surroundings of the study. Thus, the authority of the radiologist on the choice of words is challenged in each particular case one more time. The comparative reading of medical imaging reports shows, to what extent the willingness and the ability to take notice of the various challenges differ.[2,3]

The broad range of the information transfer has two fundamental consequences. First, it exercises an influence on the answer of the recipient to the presented result. Regardless of whether the diagnostic statement is correct or only more or less appropriate, the feedback that it evokes with the questioner is shaped by choice of words. Second, it controls the degree of satisfaction of the recipient with the diagnostic performance and his readiness to continue the cooperation with the physician for nuclear medicine on the same or another scale. Both effects are more pronounced in outpatient than in in-patient imaging diagnostics. Therefore, a change

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between the two *modi operandi* will unveil these effects especially well, indeed in both directions.

The report of the physician for nuclear medicine is never totally objective. Striving for an unprejudiced statement will be limited on a mere basis of the formal conditions in the running-up to the examination. The very fact that a certain imaging procedure has been asked by the referring colleague conditions the physician for nuclear medicine and triggers corresponding expectations with him. Each report is the individual answer to a new diagnostic challenge and more than the description and assessment of contours and contrasts. Each text has a personal character, may it also be more or less well hidden beneath the facts. Even the routine use of text blocks or a structured protocol does not banish the free choice of words to silence.

Expectations Shape the Report

Even before the physician for nuclear medicine sets about the examination and takes a look at the images, respectively, the diagnostic information is already shaped by the way the request has been submitted by the referring physician. The coordination of the formal information (age, sex, profession of the patient, and discipline of the referring doctor) with epidemiologic knowledge and clinical skill produces certain anticipations. Accordingly, the physician for nuclear medicine adjusts his/her horizon of expectations. The careful inspection of the common data permits to rule out a number of diagnoses and differential diagnoses to a large extent but promotes others conversely. A similar preliminary decision arises from the information if it refers to a first or a consecutive/repetitive examination, a screening examination or an examination performed within the bounds of a clinical study, respectively. When there is a lack of that kind of details, the report is threatened by a loss of accuracy, as the physician for nuclear medicine cannot reply to one or more particular clinical questions in a selective manner.[4,5] Accordingly, a diagnostic imaging report that is prepared without sufficient knowledge of the underlying medical history is both longer and more diffuse than its counterparts and appears to suffer from a lack of rigor and therefore to be less reliable. Almost inevitably, within such records, one or more elements are described and assessed that are not coupled with the current clinical problem. Nevertheless, this shortcoming does not reduce their value fundamentally. By the same token, the examiner is more prepared to come to a definitive decision, if he/she performs an imaging modality that is inevitably connected with a close relationship between him/her and the patient, for example, an ultrasound examination. Consequently, an objectively minor finding will be assessed not only as ambiguous but even affirmative when it is in favor with the clinical context.

By general consent, precise clinical data and specific questions of the referring doctor are the best guide to conclusive and therapeutically valuable statements of the physician for nuclear medicine. On the other side, just this information puts pressure on the interpreter at least to a certain degree. The referring colleague expects the physician for nuclear medicine to solve the problem presented both with an appropriate methodical approach and intellectual excellence and to put the result into an equally clever and finely tuned report. If the physician for nuclear medicine does not succeed in carrying out the order in a satisfying manner as far as the contents are concerned, the choice of words for the report runs into a problem. It is less demanding to confirm a suspected diagnosis than to reject it and to present an alternative solution that may be less obvious in the light of the medical history and the clinical findings. Thus, to show consideration for the referring doctor, the physician for nuclear medicine can offer a diagnosis with the ring of conviction as well as in a gentle language. Quite rarely, he/she will be criticized or even charged with a suspected diagnosis turning out to be erroneous. Likewise, the knowledge of the medical history may only infrequently steer the physician for nuclear medicine away from a correct diagnosis. Even so, a careful admonition is generally preferred to a shrill alert. A similar challenge to the choice of words can be recognized in part the physician for nuclear medicine has to play within the framework of postinterventional control examinations as more or less voluntary/involuntary supervisor of the effects of the measures that have been carried out by the colleagues of other disciplines. Whereas a successful outcome can be adequately reported in a few proper words, the depiction of the opposite may be clothed into playful arguments or half-open statements. All physicians for nuclear medicine who are not only engaged in the diagnostic, but also in the interventional sector, can learn from the written criticism of his/her own efforts by their colleagues, how other disciplines deal with these difficulties.

Many doctors prefer to integrate the imaging diagnosis in the clinical context and to present it to the patient in person and while being the first. All the same, this anticipation is only respected in hospitals. Within his/her private office, the physician for nuclear medicine is accustomed to present the images and findings to the patient and to talk about the possible consequences to alleviate his/her anxiety immediately afterward. That's also his/her due. Subsequent to the reading of the final report some patients return to the physician's practice to be more thoroughly informed about details in the light of complementary reports or with respect to planned therapeutic measures. Also and just in this situation,

the doctor will benefit from an evaluation that does not contain ambiguous statements or expressions. That holds especially true for tentative diagnoses or borderline findings. The physician for nuclear medicine does a favor both to himself and to the patient, if he exercises restraint in doubtful cases and if he talks about the frontiers of his statements unequivocally. Differentials that include more than three or four diagnostic choices are misplaced both inside and outside academic institutions. They are not only considered as book knowledge, but mostly they are so. Likewise, it is a sign of superiority if unsuspicious findings and commonplace statements are presented as briefly as possible. Regardless of the type of the imaging procedure applied, a term like "otherwise unremarkable" can serve as an abbreviation that is in every respect adequate for all normal or negative findings. The intelligent physician for nuclear medicine will avoid utterances like "clinical correlation is suggested" as a matter of principle, since they can be easily misunderstood as a substitute for clear diagnostic conclusions.

Occasionally, the performance of diagnostic imaging and imaging-guided procedures is hampered, or their quality is adversely affected by the patient. Whether he/she has overweight or is distended or cannot stop breathing for a sufficient period or does not keep quiet in other respects, there is a long list of factors and situations related to the patient and the underlying disease that might reduce the quality of the radiographs. The examiner is both bound and allowed to call such an obstacle to the reader's attention in the technical section of the report. All the same, he will choose his/her words so deliberately that neither the wording is disrespectful nor the patient even allusively accused to be fully or partially responsible for the shortages of the examination.

Recommendations, Not Rectifications

From the very beginning, incidental findings have been a frequent phenomenon in nuclear medicine. Their increase in number has been brought about by the fact that often, for instance as part of whole body positron emission tomography more than one region is depicted. In a similar manner, screening procedures foster the discovery of unexpected findings. Largely, the examiner becomes aware of innocent anomalies whose description and assessment can be settled in an epilog. However, incidental findings of unknown nature and dignity or other results that demand action without delay or that will give rise to other dramatic consequences can seriously interfere with the physician's choice of words and attempted explanations. To prevent secondary damages and/or to keep them to a minimum, the record is immediately conveyed both to the patient and the referring physician in private or by telephone. These precautionary arrangements are capable to restrain the surprise effect that is inevitably connected with the exclusively written transfer of an appalling diagnosis. Subsequently, these preparatory instructions are recorded in the final report.

Both laconic brevity and Baroque love of details can bring imaging reports into discredit. In either case, the reader will not be convinced that he is taken seriously. Didactic comments should be avoided without exception and irrespective of the specialization of the recipient. However, even standard expressions (for instance "as far as evident from the today's examination") can lead to considerable annoyance and a corresponding loss of confidence and dissatisfaction, notably when the reader will discover them more than once in a while.

The physician for nuclear medicine is not a merchant, but an authorized agent. However, he/she has to sell the information he/she has been asked for. The trust that has been transferred to him/her with the referral is answered by a combination of attention, perception, and discernment within the report. A clearly articulated verbal association of imaging findings and imaging characteristics with the clinical diagnosis (as evident from a formula like "…as a sign for…") is highly esteemed by the majority of the readers. They consider this way of assessment as a symbol of clinical competency and the effort for a causally and practice-orientated interpretation. By the same token, if the descriptive elements dominate and the author is obviously not willing to commit himself to a diagnosis, this policy is interpreted as proof that he/she is reluctant to take responsibility and prefers to leave the final interpretation of the images to the bedside assessment.[6-8]

Many imaging reports come to a close with one or more diagnostic and/or therapeutic recommendations, usually for additional investigations or patient referral. Advice like those has to be harmonized with the clinical situation in style and tone. This demand holds true even for such a frequently articulated recommendation like the comparison with former examinations and prior reports. Even if the demand for comparison is always justified, the examiner might be misunderstood in his/her manner of handling and blamed for inertia and unjustified assignment of his/her genuine task. In that case, it seems to be outstandingly clever to offer the own commitment in pursuit of supplementary imaging material at least as an alternative. By comparison, if recommendations are expressed for controls and subsequent measures in the field of diagnostic imaging, the physician for nuclear medicine avoids alluding to the institution where he/she attends to his/her business. In assuming this attitude he/she steers clear of pretending subsequent imaging measures or even making an appointment and as a consequence demanding part of the decision-making power of the clinician. If further diagnostic efforts are

recommended, only the discipline is referred to, not a single or particular procedure. That kind of discretion is demanded by the respect for the skill and competency of the addressed colleagues. Finally, an intervention such as radioimmunotherapy is offered on the understanding that a respective agreement has been achieved in the course of a personal consultation or a conference between physicians for nuclear medicine and clinicians.

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