

How often do patients ask for the results of their radiological studies?

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Abstract

Objectives To measure how often patients ask directly about their test results at the end of imaging studies.

Methods A total of 1,171 outpatients underwent ultrasonography (384), CT (382) or MR of the extremities (405). Demographic features including age, sex, educational background, anxiety and type of examination (initial examination vs follow-up) were considered. Statistical analysis was carried out by means of the chi-square test.

Results Of the 1,171 patients, 525 (45%) asked for information about the results of their studies. Only 88/382 (23%) patients asked after CT; 224/405 (55.3%) asked after MR, and 213/384 (55.5%) asked after US (CT vs US and vs MR $p < 0.001$). There was a highly significant trend regarding education (36.4% with elementary schooling; 41.5% with intermediate education; 55.1% with higher schooling or university degrees; $p < 0.001$). No other differences were noted.

Conclusion We believe these results show the importance of the direct doctor-patient relationship during radiological studies. Communication, time to talk and provision of information are probably the most important things patients want from their doctors. Our study suggests that this is also relevant in radiology and, when given the opportunity to meet the radiologist, patients appreciate the interaction.

Keywords Radiological studies · Results · Doctor-patient relationship

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Introduction

Two recent papers by Leonard Berlin have brought new attention to the problem of communication of the results of radiological examinations to patients directly by the radiologist [1, 2]. Although the way by which imaging results are disclosed to the patient varies among the different countries, direct communication of the report by the radiologist is not common practice. Radiologists usually perform imaging examinations at the request of referring physicians and transmit their interpretations in writing back to the same physicians [3]. In our outpatient practice, the written report is given to the patient in a closed envelope addressed to the referring physician, and its results are not explained by the radiologist directly to the patient. Numerous papers have studied the preferences of patients, radiologists and referring physicians about direct communication of the report to the patient [4–12]. Opinions vary widely, but there is consensus on the duty of the radiologist to respond truthfully, and with careful consideration of patient's sensibilities and feelings, when asked directly about the results of the study.

However, to the best of our knowledge, no previous reports have actually measured how often patients make a direct request asking for disclosure of the results at the end of their examinations.

The purpose of this study was to formally measure the frequency with which patients request the results of their radiological examination.

Materials and methods

During the period between August and November 2008, we evaluated how often patients enquired about the results of their examinations before leaving the examination room.

The study involved 1,171 consecutive outpatients undergoing ultrasonography (US), CT or MR of the extremities. In our practice, the US examination is performed directly by the radiologist, who also interrogates the patient about his/her symptoms before the study. At CT, the patient usually only meets the radiologist if a contrast-enhanced study is needed in order to obtain informed consent before the injection; direct care of the patient is taken by a radiological technician and a nurse. MR of the extremities is performed on a dedicated machine by a radiologist resident who carries out a patient interview before starting the examination, follows it while remaining in the room and checks the images obtained at the end of the study.

After leaving the examination room, patients were asked to fill in a questionnaire concerning age, sex, educational background and presence of anxiety before the study. We also assessed whether the examination was the initial radiological examination for the patient's problem or a follow-up for a known disease process.

Permission for the study was obtained by the local ethics committee.

Statistics

Comparisons of the proportion of patients asking for information between groups was carried out using the chi-square test.

Results

Out of the 1,171 patients involved in the study, 384 underwent US, 382 underwent CT, and 405 underwent MR of the extremities. Out of the 382 patients who underwent CT, 218 (57%) had a contrast-enhanced study. There were 549 men and 622 women (age range, 15–97 years; mean, 58). There were 385 patients who had elementary school education only, 352 who had middle school education, and 434 who had higher schooling or went to university. Anxiety before the examination was recorded by 274/1,171 patients; 609/1,171 studies were requested to follow up a known disease process.

A total of 525/1,171 patients (45%) requested information about the results of their studies. Differences were noted among the three kinds of examinations. Only 88/382 (23%) patients asked for information after CT; 224/405 (55.3%) asked after MR, and 213/384 (55.5%) asked after US (CT vs US and vs MR, $p < 0.001$).

There were no significant differences regarding sex or anxiety before the examination, or if the study was the first exam for the patient's problem or it had been requested to follow up a known disease process. Older patients enquired

less frequently than younger ones, but the differences did not reach statistical significance. There was a highly significant trend regarding education, with only 36.4% of patients who had only an elementary school education asking for the results, compared with 41.5% of those who had a middle school education and 55.1% of those who had a high school education or university degree ($p < 0.001$).

Discussion

There is lively debate in the literature on the visibility and understanding of the discipline of radiology and on understanding of the role of radiologists by the public [13]. In a survey published in 1989, Smith et al. reported that only 10% of patients cited the radiologist as a factor in their expectations of radiological procedures before being specifically asked about the role of that physician [14]. Lack of involvement of radiologists in communicating directly to patients before, during and after most radiological investigations has been indicated as the key factor behind this problem [13, 15]. There seem to be two reasons for this. The first is the increasing workload of imaging examinations, which has isolated the radiologist in a reading room in front of a workstation far removed from the patients. The second is the traditional role assigned to radiologists in health care: the results of their studies are usually addressed to referring physicians and are not given or explained directly to patients. They have been described as doctor's doctors [16]. Although radiologists play a key role in health care, they are often neither seen nor heard by most patients.

Many patients, radiologists and referring physicians agree on disclosure of information directly to the patient, and there is substantial agreement that if an adult patient asks to know the results from the radiologist, the radiologist should not decline to answer [8, 9, 13]. However, there is little information as to how often this occurs. Levitsky et al., in 1993, wrote "Although a minority (but a seemingly growing number) of patients ask the radiologist to disclose the results of their study..." [11], and Schreiber et al., in 1995, stated that "Patients often ask radiologists about the results of their examinations" [8]. In our study we have shown that a large number (almost a half: 45%) of patients wanted to know the results of the study immediately after it is finished, before leaving the examination room.

We have also shown that there are two factors that seem to influence this attitude. The first is the educational background of the patient. This factor was highly significant, with up to 55.1% of patients with higher education or degrees asking for the results. The second is the way we practice. At the end of both the US and MR studies, during which there was strong patient-doctor

interaction, patients asked about results significantly more frequently than after CT.

These results were not unexpected. It is known that the higher the education level of patients, the more active they are in taking care of their health and in the relationships with their caregivers [17]. Furthermore, it has been shown that when US is performed directly by the radiologist or under close supervision of the radiologist, patients are keen to discuss with him/her the results of their studies [10].

The figures we obtained at MR can be explained by the way MR of the extremities is performed at our institution. This examination is part of the musculoskeletal rotation of radiological residents. They have direct contact with the patient, make an interview to assess the indications to the study, stay in the room either performing the study personally or following the work of the technician, evaluate the resulting images before the patient leaves the room and make a preliminary report.

Up to 57% of patients who underwent CT met the radiologist directly, but only to obtain informed consent before injection of contrast material. We believe they felt this contact to be a bureaucratic duty, not a clinical approach to their problem. This can be an additional explanation of the significantly fewer requests for results at the end of CT examinations in our institution.

The doctor-patient relationship is crucial in health care. Communication, time to talk and provision of information are probably the most important features that patients want from their doctors [18, 19]. The results of our study seem to indicate that this happens also in radiology and, when given the opportunity, patients interact actively with the radiologist.

But talk isn't cheap [20]. In the current health care environment, in which radiological departments tend to be run as "examinations factories," time is at a premium. It is difficult to organize workflow efficiently and to allow time to interact directly with patients. However, we believe radiologists have to consider how to change their current modes of practice to become more visible to patients and to behave not only as the doctor's doctor, but also as the patient's physician. If we, as physicians, interact with patients, they will interact with us and will more fully appreciate the crucial role of radiology in their diagnosis and treatment.

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