CLINICAL AUDIT

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Are Clinicians Communicating Adequately with Radiologists through Radiological Requisition? A Clinical Audit Assessing Current Local Practice

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ABSTRACT

Introduction:

A radiological request form is the only communication tool between the treating physician and the radiologist. This study was conducted to assess the adequacy of filled radiological request forms in a tertiary health institute.

Methods:

Three hundred radiological requisition forms which were filled by doctors at the tertiary hospital were selected randomly and analyzed. The forms were evaluated for completeness of the information entered by the physician. The request forms were selected by convenience sampling method to avoid bias and included forms from multiple departments both inpatient and outpatient.

Results:

Our audit data revealed that out of the total 250 request forms that were analyzed only the names of the patients and the part to be examined was filled. The age and gender of the patients were filled in 99.2% and 99.6% forms respectively. A total of 59.6% of forms had provisional clinical diagnosis, name and department of the physician requesting the investigation were present in 75.6% and 66% of forms respectively. None of the forms contained the contact number of the requesting physician with 8% forms without the name of the physician and department who had filled the request form.

Conclusion:

At the end of our audit, we concluded that radiological request forms are rarely filled properly which results in inadequate transmission of clinical information.

Keywords: *Communication; Diagnostic errors; Radiologists*

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INTRODUCTION

Managing a patient is a multidisciplinary approach involving individuals from various fields of medicine. The radiological requisition form is an important link between the managing doctor and the radiologist, its quality being of utmost importance. Most of the time a clinician opts for a radiological report to support his clinical diagnosis before starting any treatment. A single mistake or misdiagnosis could hamper the treatment a patient should receive.

The Royal College of Radiologists (UK) guideline states: "Requests should be completed accurately and legibly to avoid any misinterpretation; ideally, they should not be handwritten. Reasons for the request should be clearly stated, and sufficient clinical details should be supplied to enable the imaging specialist to understand the particular diagnostic or clinical problems to be resolved by the radiological investigation".[1]

A radiological requisition form is a clinical document filled by the physician which includes a patient's particulars, date, a brief but significant clinical history, the examination requested and the name and signature of the attending physician.[2] However, no standardized format for radiology request forms is available. A properly filled requisition form is essential to understand the clinical problem and make a radiological diagnosis.[3] If filled correctly and completely it can aid the clinician to reach a definitive diagnosis and start the suitable treatment.

The radiology request form is a document of immense importance with medicolegal standing. It ensures that the correct procedure is performed on the correct patient, the procedure, which often involves the use of ionizing radiation, is justified, and the radiology staff are aware of any special circumstances like known allergies and fall risk. Most of these parameters also fall under the core of International Patient Safety Goals (IPSGs).[4]

Previous studies in the literature have shown that up to 20% of radiographic examinations are clinically unhelpful because they were either not appropriate or the request was wrong ab initio.[2] A completely filled form also reduces the number of unnecessary radiographic examinations performed, the investigation time, frequent exposure to radiation and unsatisfactory outcome. Lack of complete information to identify the patients can also lead to mixing of their reports and thereby misdiagnosis and mismanagement.[5]

We, therefore, undertook this study to audit the adequacy of completion of Ultrasonography (USG) and Computed tomography (CT) scan forms received at the radiological department of this tertiary health care centre.

METHODS

A total of 250 consecutive radiological requests were selected after the ethical approval from the board for a one-month duration, of which 150 were Ultrasound request forms and 100 were CT scan request forms. The forms were examined to assess the completeness of entry of the following details by the requesting doctor i.e. name of the patient, age, gender, relevant history, investigations requested for, the part to be examined, provisional diagnosis, name of the department and phone number of the requesting physician.

The request forms were selected by convenience sampling method to avoid bias and included forms from multiple departments both inpatient and outpatient. The CT scan forms included request forms for both plain radiography and contrast-enhanced radiography. The data which was collected was entered into a spreadsheet (data proforma) and processed manually.

RESULTS

The standard clearly states that all radiology request forms should be adequately completed.[6] Our audit data revealed that out of the total 250 request forms that were analyzed none of them was filled completely. Two parameters were properly filled in all the forms i.e the names of the patients 250 (100%) and the part to be examined 250 (100%). The ages of the patients were filled in 248 (99.2%) forms and gender was filled in 249 (99.6%) forms. Relevant history was written on 146 (58.4%) forms and only 41 (16.4%) forms mentioned the relevant investigations. Provisional clinical diagnosis

was written on 149 (59.6%) forms, and the name and department of the physician requesting the investigation were present in 189 (75.6%) and 165 (66%) forms respectively. None of the forms contained the contact number of the requesting physician. Neither the name of the physician nor the department of the physician who had filled the request form was 20 (8%).

All the Ultrasound request forms i.e. 150 (100%) contained the name, age, gender and the part to be examined. 100 (66.6%) forms had relevant history written in them, only 15 (10%) forms had relevant investigations and the provisional diagnosis was present in 89 (59.3%) of the 150 forms analyzed. Name and department of the physician were present in 105 (70%) and 129 (86%) forms respectively, 8 (5.33%) forms lacked both of the above data and none of the forms 0 (0%) had the contact number of the referring physician.

Table 1: All Request Forms

S.N.	Information field	YES (%)	NO (%)
1.	Name	250 (100%)	0 (0%)
2.	Age	248 (99.2%)	2 (0.8%)
3.	Gender	249 (99.6%)	1 (0.4%)
4.	Relevant History	146 (58.4%)	104 (41.6%)
5.	Relevant Investigation	41 (16.4%)	209 (83.6%)
6.	Part to be examined	250 (100%)	0 (0%)
7.	Provisional Diagnosis	149 (59.6%)	101 (40.4%)
8.	Name of the physician	189 (75.6%)	61 (24.4%)
9.	Department	165 (66%)	85 (34%)
10.	Contact of the referring physician	0	250 (100%)

Table 2: USG Request Forms

S. N.	Information Field	YES (%)	NO (%)
1.	Name	150 (100%)	0 (0%)
2.	Age	150 (100%)	0 (0%)
3.	Gender	150 (100%)	0 (0%)
4.	Relevant History	100 (66.6%)	50 (33.3%)
5.	Relevant Investigation	15 (10%)	135 (90%)
6.	Part to be examined	150 (100%)	0 (0%)
7.	Provisional Diagnosis	89 (59.3%)	101 (40.6%)
8.	Name of the physician	105 (70%)	45 (30%)
9.	Department	129 (86%)	21 (14%)
10.	Contact of the referring physician	0	150 (100%)

Table 3: CT SCAN Request Forms

S. N.	Information Field	YES (%)	NO (%)
1.	Name	100 (100%)	0 (0%)
2.	Age	98 (98%)	2 (2%)
3.	Gender	99 (99%)	1 (1%)
4.	Relevant History	46 (46%)	54 (54%)
5.	Relevant Investigation	26 (26%)	74 (74%)
6.	Part to be examined	100 (100%)	0 (0%)

7.	Provisional Diagnosis	60 (60%)	40 (40%)
8.	Name of the physician	84 (84%)	16 (16%)
9.	Department	36 (36%)	64 (64%)
10.	Contact of the referring physician	0	100 (100%)

All the CT scan request forms i.e. 100 (100%) had the name of the patient and the part to be examined, 2 (2%) forms lacked the age of the patient and 1 (1%) form did not have the gender of the patient written in it. Relevant history was present in 46 (46%) forms, relevant investigations in 41 (41%) forms respectively and 60 (60%) forms had the provisional diagnosis written in them. Name and department of the physician were present in 84 (84%) and 36 (36%) forms respectively, 12 (12%) forms did not have both of the above data and none of the forms had the contact number of the referring physician.

Of the total 100 CT scan request forms that were analyzed, 24 were requested for contrast-enhanced CT scans. Only 9 (37.5%) of these forms had the relevant investigations written on them while 15 (62.5%) forms lacked this data. An investigation like serum creatinine is a must when performing contrast studies and it is still lacking in a few of them.

DISCUSSION

A radiological request form is the only medium of communication between a clinician and the radiologist. Relevant information must therefore be present in the request forms to assist the radiologist in conducting a proper investigation and in making his diagnosis.[7] The best possible service can be provided to the patient only if there is adequate communication between the members involved in patient management. Though a request form is the only method of communication between the two physicians their importance, as seen from the results elucidated by our audit, is highly underestimated.[8]

The lack of complete and accurate clinical information on imaging requisitions is a long-recognized problem.[5] Previous audits around the same area showed a worldwide deficiency in filling radiology request forms appropriately.[1] Our results show that all the forms had the names of the patients and parts to be examined properly filled in. This is expected since a form without the above two data would not qualify to go through the process of payment as required in the hospital before being sent to the Department of Radiology.[4] However, the other data were not fully entered.

The absence of the patient's age and gender may cause a grave error in identifying the patient accurately. None of the forms that we audited had the phone number of the physician requesting the investigation which gave the radiologist little opportunity to discuss the clinical cases or ask any specific questions which may aid in the radiological diagnosis and management of the patient.

When the information provided is inaccurate a patient may receive unnecessary radiation exposure or an inappropriate test may be conducted which may slow down the assessment and treatment of the patient and incur unnecessary costs to the patient and the medical institute. There is evidence that inadequate clinical information is associated with an increased level of inaccurate reports; while accurate clinical information is more likely to assist the radiologist in constructing a report which will in turn help the referring doctor with the management of the patient.[2]

Receiving a well-filled request form would clear any obstacle that may come in the way of getting an accurate radiological diagnosis. This can only be achieved by increasing the awareness of referring clinicians on the need to ask specific questions and to provide full clinical details to aid radiological diagnosis. Subsequently, the final differential diagnosis is reached by combining the radiological findings with the clinical picture.[2]

CONCLUSION

At the end of our audit, we concluded that radiological request forms are rarely filled completely which results in inadequate transmission of clinical information. We recommend that there should be meetings between physicians from different

departments along with radiologists to address this program and discuss how it can be improved. There is ample room for a change in the attitude of clinicians in filling radiological request forms which will improve the outcome and be fruitful in patient management.

CONFLICT OF INTEREST

None

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None

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