Analysis requests for sonography examination made by emergency residents in Algamhuria Modern General Hospital- Aden -Yemen

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Abstract

There is an evidence that inadequate clinical information is associated with an increased level of inaccurate reports. In our practice, we have noticed that sonography requests sometimes do not contain enough information to aid to better sonography report. The aim of this study is to analyze the requests for sonography examination in the Emergency Department of Algamhuria Modern General Hospital –Aden- Republic of Yemen, and to determine if requests provide adequate information for sonographers. We have retrospectively reviewed 250 randomly selected request forms received by the ultrasound unit of Radiology Department, at the Emergency Department. The ultrasound most frequently requested by area is the abdominal and pelvic ultrasound, being 80.8% of the analyzed requests while one (0.4%) did not have the specific part of the body area to be investigated written on the request form. Four requests (1.6%) with no patient's name (s) and seven (2.8%) with no father name (s) . Eighty eight requests (35.2%) did not have date of request on it. One hundred and twenty seven (50.8%) of the request form did not have the age of the patient. Patient status wasn't mentioned in almost all except 9 /250 (3.6%). Clinical and laboratory information were absent in 128(51.2%) of the requests forms. Only 10 (4%) had information of previous radiographic investigations, while 240 (96%) did not have any previous radiographic information.. Two hundred and nine (83.6%) of the request forms had the doctors names and signatures on the request. Our audit's data analysis revealed that only two of the 250 requests reviewed were completed in full. We found that requests for sonography examination in the Emergency Department of our hospital haven't provided adequate information for sonographers.

Keywords: Emergency sonography. Sonography request. Request audit.

Intraduction

Ultrasonography has become an integral modality in emergency care during the last two decades. The use of ultrasonography in emergency care has contributed to improvement in quality and value, specifically in regards to procedural safety, timeliness of care, diagnostic accuracy, and cost reduction [6]. The number of requests for imaging studies has significantly increased over the last few years, particularly those arising from emergency departments [2]. Radiology request forms are essential communication tools used by doctors referring patients for radiological investigations. Good communication between radiologists and referring physicians is a vital aspect of optimal health care [7]. Accurate clinical information is more likely to assist the reporting radiographer in constructing a report, which in turn will help the referring practitioner with the management of the patient. It also indirectly helps to reduce the investigation time and improve the quality of service offered to the patients [3]. Without smooth information flow, even the latest technological innovations in medicine may be useless. There is evidence that inadequate clinical information is associated with an increased level of inaccurate reports [1]. In our practice, we have noticed that sonography requests sometimes do not contain enough information to aid to better sonography report. The British medical ultrasound society recommended that imaging requests should include a specific clinical question (s) to answer , contain sufficient information from the clinical history, physical examination and relevant laboratory investigations to support the suspected diagnoses [4]. The aim of this study is to analyze the requests for sonography examination in the Emergency Department of Algamhuria Modern General Hospital –Aden- Yemen, and to determine if requests provide adequate information for sonographers.

Materials and Methods

We have retrospectively reviewed 250 randomly selected request forms received by the ultrasound unit of Radiology Department, at the Emergency Department of Algamhuria Modern General Hospital at Aden city – Yemen, between January and March 2018. The study included referrals from emergency department, referrals from out-patients clinics were not included. For each request, the presence or absence of adequate information in the sonography request field was noted. Information for the identification of patient (name, age, and sex), the date the ultrasound was preformed, the physician and medical service that requested the test, the body area of the ultrasound, the cause of examination, suspected diagnosis and clinical data justifying the requested.

Results

Two hundred and fifty requests for emergency ultrasound were reviewed. One hundred and fifty (60 %) were men and 96 (38.4 %) women, 4 (1.6%) were not mentioned. The most frequent petitioners were the general practitioner 115 (46 %) and the surgery residents 30 (12 %). The ultrasound most frequently requested by dody area is the abdominal and pelvic ultrasound, representing 80.8 % of the analyzed requests. Other areas are shown in Fig. 1.

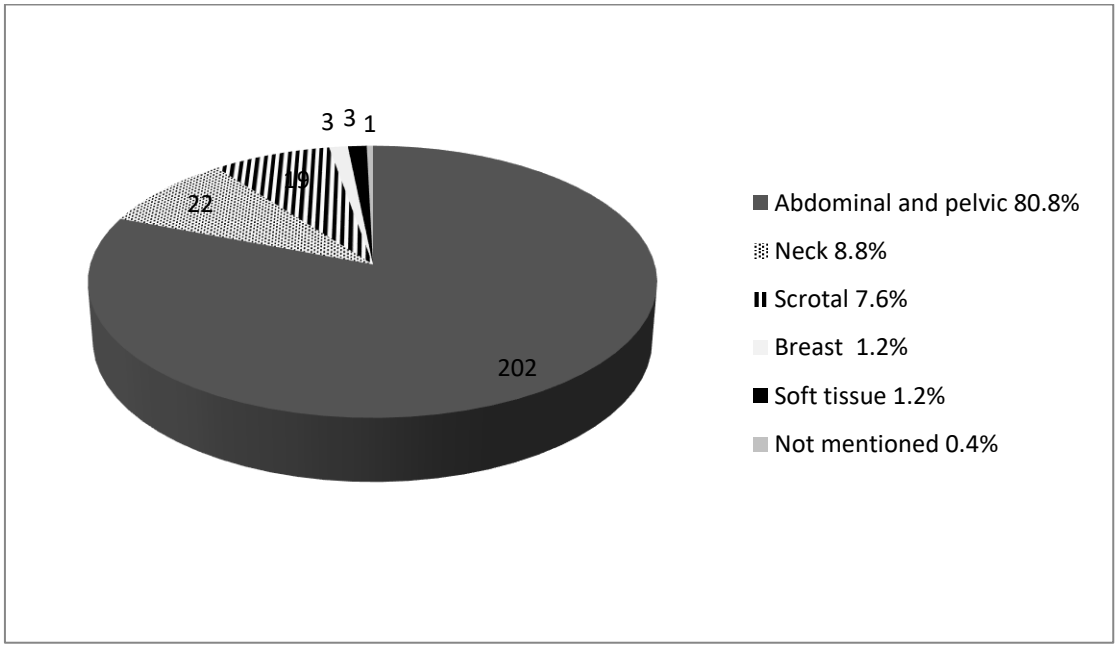

Figure 1: The sonography examination requested by body area

Two hundred and forty-six (98.4%) request forms had patient's name(s) and 243(97.2%) father name(s) except four (1.6%) with no patient's name (s) and 7 (2.8%) with no father name(s) . One hundred and sixty-two (64.8%) had dates of request, while eighty eight (35.2%) did not have date of request on it. one hundred and twenty seven (50.8%) of the request forms did not have the age of the patient, while 123 (49.2%) of this request had the age filled. Two hundred and forty nine (99.6%) had specific part of the body to be investigated written on the request form, while 1(0.4%) did not. Patient status wasn't mentioned in almost all except 9 (3.6%). Clinical and laboratory information were absent in 128 (51.2%) of the request forms. Only 10 (4%) had information of previous radiographic investigations, while 240 (96 %) did not have any. Two hundred and nine (83.6 %) of the request forms had the doctor's names and signatures on the request. Our audit's data analysis revealed that only 2 (0.8%) of the 250 requests reviewed were completed in full.

Table 1: Information provided in requests for sonography examination

Variable	Total	Yes	%	No	%
Name of patient	250	246	98.4%	4	1.6%
Father name	250	243	97.2%	7	2.8%
Age	250	123	49.2%	127	50.8%
Date of examination	250	162	64.8%	88	35.2%
Request body	250	249	99.6%	1	0.4%
Clinical & lab. date	250	122	48.8%	128	51.2%
Patient status	250	9	3.6%	241	96.4%
Previous date	250	10	4%	240	96%
Doctor name	250	209	83.6%	41	16.4%

Discussion

The request form filling is a worldwide problem. There is an evidence that inadequate clinical information is associated with increased level of inaccurate report; 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 patient [5]. Scally [10], considered the proper design of a radiology request/referral form, while Ali F et al [2] reported in a pilot study that one of the items which reflect the quality in a radiology department is the level of information given on the request cards. Some audits were concerned about patient's details and some about referring ward or area to be examined. However some were interested more in adequacy of provided clinical information in relation to aiding radiological study interpretation and reporting [1,7,8]. Our results were not different from the usual figures of previous similar audits [2,4,5,9]. They highlighted the decreased interest of clinicians to provide adequate information, which would help for better reporting, and eventually better patients' care. For any diagnostic procedure, physicians of any specialty should provide detailed clinical information on the request form in order to orient the radiologist to the particular pathology for which the procedure was requested. The patient's identification, age, sex, provisional diagnosis, and instructions for the procedure should be mentioned clearly [8]. In our study, it is found that only 0.8 % of the referrals provided the required information. This study revealed a relatively high number of uncompleted fields in the radiology request forms. Only two of the requests analyzed was completely filled. This compares closely with another study where only 4% of the 200 request forms reviewed were completely filled [1]. Referring doctor's name and signature were missing in 41 (16.4%) requests. The doctor should take the final responsibility in asking for an investigation. This study revealed that clinical notes were missing in 51.2% of the requests, which compared with another study [2,7,9]. According to the result of the analysis, date of referral was missing in 35.2% of the request forms; this may not appear very relevant to the examination or reporting. The names of the patients, age and father names were given in 98.4%, 49.2% and 97.2% of cases, respectively.

Past information about previous surgery, previous ultrasonography and its itinerary were also not filled in the request form, thus access and the possibility to review previous radiographs and reports that will influence radiologic decision were defective.

Conclusion

We found that requests for sonography examination in the Emergency Department of our hospital didn't provide adequate information for sonographers because of insufficient knowledge of the importance of this information for radiologists and also because there is no specific request forms for sonography examination in our hospital.

Recommendation

- Desiging and providing a sonography request form with a view to obtaining all the information required.

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تحليل طلبات الفحص بالموجات فوق الصوتية المقدمة من قبل أطباء الطوارئ بمستشفى الجمهورية النموذجي العام – عدن – اليمن

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المُلخص

هناك أدلة على أنّ المعلومات السريرية التي ترتبط بزيادة مستوى التقاريرغير كافية و غير الدقيقة. فمن تجربتنا العملية، لاحظنا أنَّ طلبات التصوير بالموجات فوق الصوتية لا تحتوي في بعض الأحيان على معلومات كافية ورئيسية للمساعدة في تحسين جودة الفحص. الهدف من هذه الدراسة هو تحليل طلبات الفحص بالموجات فوق الصوتية في قسم الطوارئ بمستشفى الجمهورية النموذجي العام – محافظة عدن - اليمن, وتحديد ما إذا كانت الطلبات توفر معلومات كافية لأطباء الأشعة. لقد راجعنا بأثر رجعي 250 نموذج طلب تم اختيارهم عشوائياً من قبل وحدة الموجات فوق الصوتية في قسم الأشعة، في قسم الطوارئ. الفحص بالموجات فوق الصوتية لمنطقة البطن والحوض هو الفحص الأكثر شيوعاً، حيث إنه يُمثّل 80.8٪ من الطلبات التي تم تحليلها ، في حين أنَّ (0.4٪) من الطلبات لم يتم الإشارة فيها إلى المنطقة المراد الكشف عنها في نموذج الطلب. أربعة طلبات (1.6٪) من غير اسم (أسماء) للمرضى 7 (2.8٪) من غير اسم الأب. ثمانية وثمانين طلبًا (35.2٪) لم يكن لها تاريخ طلب. مائة وسبع وعشرين (50.8٪) من استمارة الطلب لم يتم الإشارة فيها إلى عمر المريض. لم يتم ذكر حالة المريض في جميع الحالات باستثناء 250/9 (3.6٪). كانت المعلومات السريرية والمخبرية غائبة في 128 (51.2 ٪) من استمارات الطلب. فقط 10 (4٪) لديها معلومات عن فحوصات إشاعية سابقة في حين أنّ 240 (96٪) لم يكن لديهم أي معلومات إشعاعية سابقة. كان هناك مائتان 209 (83.6٪) من نماذج الطلب لديهم أسماء الأطباء والتوقيعات على الطلب. كشف تحليل بيانات التدقيق لدينا أنّ اثنين فقط من250 طلب كانت تحتوي على جميع المعلومات الخاصة بالمرضى.
وجدنا أنّ طلبات الفحص بالموجات فوق الصوتية في قسم الطوارئ بمستشفانا لم تقدم معلومات كافية لاطباء الفحص بالموجات فوق الصوتية.

الكلمات المفتاحية: الفحص بالموجات فوق الصوتية في حالات الطوارئ. طلب الفحص بالموجات فوق الصوتية. تدقيق الطلبات.