International Journal Dental and Medical Sciences Research
Volume 5, Issue 2, Mar - Apr 2023 pp 936-939 www.ijdmsrjournal.com ISSN: 2582-6018

An Audit of Histopathology RequisitionsSentto the Laboratory of a Tertiary Facility in Maharashtra

Dr Ankita Kolhe, Dr Anjali Bode, Dr Balwant Kowe
Third Year M.D. Pathology, Department of Pathology,Indira Gandhi Government Medical college, Nagpur
M.D. Pathology Assistant Professor, Department of Pathology, Indira Gandhi Government Medical college, Nagpur
M.D. Pathology, Head of Department, Department of Pathology, Indira Gandhi Government Medical college, Nagpur

Date of Submission: 20-04-2023 Date of Acceptance: 30-04-2023

ABSTRACT:The accuracy and reliability of requisition forms are crucial in establishing an accurate diagnosis of the specimen submitted for examination. Our study aims to objectify the deficiencies in laboratory requisition forms in order to reduce preanalytical errors in the future. Methods: This study was conducted on 750 pathology requisition forms over a period of 3 months (January 2022- March 2022) in an academic teaching facility in Nagpur. The frequency of completion of patient particulars, clinician details, sample particulars and examination request were tabulated and analysed. Results: Out of 750 requisition forms analysed only 12 forms were complete Patient particulars such as name, age, sex, IPD/OPD numbers were the most commonly filled. The least filled details included time of specimen collection (1.6%), timeline for reporting (11.6%), name of the requesting clinician (50%), nature of lesion (47.2%), relevant investigations included (47.6%) and duration of symptoms (50.4%).Discussion: This research is relevant to minimise the pre analytical and analytical errors of laboratory specimen receiving. A lack of relevant history and investigations may lead to misdiagnoses and hence inappropriate patient care.

KEYWORDS:Pathology requisition, pre-analytical, laboratory, patient care

I. INTRODUCTION:

Evidence based medicine has become an integral component of routine patient care and has been heavily reliant on the accuracy of laboratory reports. Erroneous results can further be subdivided into: Preanalytical, analytical and post analytical phases of specimen testing. 50-70% of errors have been noted to arise from the preanalytical phase which is comprised of delay and specimen mishandling (wrong specimen or fixative, mislabelling of sample). They may also include incomplete requisition forms accompanying the specimen. The errors in this phase are out of the domain of laboratory personnel and can cause significant biases during establishing final diagnoses. [1,2,3]

The reliability of the final interpretation in histopathological diagnoses is premedicated on the quality and accuracy of relevant clinical, biochemical and imaging findings provided by treating physicians. [4]

This study aims at studying the deficiencies in laboratory requisition forms and points out the relevance of clinical details provided so as to minimize preanalytical errors in the future.

II. METHOD:

The current research was carried out in the Pathology departmentof anacademic teaching hospital of central India over a duration of 3 months (January 2022- March 2022). Requisition forms were carefully assessed for:

Patient particulars- Full name, age, gender, hospital ID

Clinical details- Description and period of symptoms, location and nature of lesion, imaging studies, cytological investigations, relevant past and family history, relevant drug history, provisional and differential diagnoses, procedure performed.

Test request details: Physician details including name, authentication of the requesting clinician, Department and unit requesting the test.

Sample particulars: Date and time of sample assembly, appropriate dimensions of the container holding the specimen, medium of transportation of specimen to the laboratory.

To be labelled as a complete requisition form, the above mentioned data sets had to be completed.

Ethical clearance for the current study was acquired by the health and research committee of the concerned institute.

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III. RESULTS:

A total of 750 requisitions were submitted during this duration and evaluated for the above mentioned parameters. Only 1.6% cases had completed requisition forms.

Patient particulars such as name (n=750, 100%) , IPD/OPD no. (n=750, 100%), age (n=732, 97.6%), sex (n=739, 98.53%) were the most commonly filled.

The least filled details included the duration of symptoms (n=378, 50.4%), and relevant investigations conducted (n= 357, 47.6%) nature of lesion (n= 354, 47.2%), name of the requesting clinician (n=375, 50%), timeline for reporting (n=87, 11.6%) and time of specimen collection (n= 12, 1.6%) in decreasing order of frequency.

Table 1:Frequency of completed patient particulars

Patient particulars	Frequency	Percentage
Name	750	100%
Age	732	97.6%
Gender	739	98.53%
Hospital ID	750	100%
Patient's clinical data		
Description of symptoms	474	63.2%
Duration of symptoms	378	50.40%
Site of lesion	516	68.8%
Nature of lesion	354	47.2%
Investigations (cytological or radiological)	357	47.6%
Provisional and differential diagnosis	603	80.40%
Procedure performed	522	69.60%

Table 2: Frequency of completed clinician details

Clinicianparticulars		
Name	375	50%
Authentication	510	68%
Department and unit	588	78.4%

Table 3: Frequency of completed sample particulars

Sampleparticulars	Frequency	Percentage (%)
Collection date	741	98.8%
Collection time	12	1.6%
Formalin fixed sample received	714	95.2%
Sample delivered in suitable container	648	86.4%

Table 4: Frequency of completed examination request results

Examination request details	Frequency	Percentage(%)
Date of request	744	99.2%
Time-line category for reporting	87	11.6%

IV. DISCUSSION:

Only 1.6% histopathology requisition forms were complete in our study. Similar results were reported by studies conducted by Olufemi et al (1.3%)[5]. Makubi et al [6]recorded 100% lack of complete requisitions submitted. However similar studies conducted by Priyadarshini et al [(7)]and Jegede F et al [(8)] showed 12.2% and 9.4% completed requisition forms respectively.

The name of the patient along with the OPD/IPD number was present in 100% of the requisition forms. The date and time of specimen collection was mentioned in 98.8% and 1.6%. (Table 3)

These results were somewhat conflicting with the studies conducted by J L Burton et al [9] who showed the date and time studied to be 98.2% and 79.3%

A provisional/differential diagnosis was provide by 80.4% of clinicians (Table 1). These values were higher than the study conducted by J L Burton et al (53.1%) [9]. However Priyadarshini et al [7] recorded 94.7% requisitions that included a provisional or differential diagnosis.

In our study, 95.2% of specimens were received in formalin and 86.4% of the specimens were dispatched in appropriately sized containers (Table 3). These results coincided with Priyadarshini et al[7](89.8% in formalin, 85% in appropriate containers) and Akinfewa et al[10](80% in formalin, 83.5% in appropriate containers).

Studies conducted by Werner et al [11] emphasized on adequate formalin fixation for tissue processing and immunohistochemical studies. He recommended that tissue fixation should start as soon as possible, preferably within 30 minutes.

Appropriate containers should also be used keeping in mind the tedious process of specimen removal from small containers so as to not distort the specimens sent for examination.

Physician names and corresponding departments were filled out in 50% and 78.4% of the forms respectively (Table 2). These results were comparable to 42.5% of clinicians who mentioned their names in the study conducted by JL Burton. [9]

The pre and intra analytical quality of tests determines the minimization of errors. Comments made by the reviewing pathologist and its appropriate interpretation by clinicians are vital for patient outcome. [12,13]

However, the quality of the interpretation by the clinician is reliant on the adequacy of details provided in the requisitions submitted to the laboratory. [14]

V. CONCLUSION:

This study showed that patient clinical details as well as the details of referring clinician were inadequately filled in our setting. A lack of relevant history and investigations may lead to misdiagnoses and hence inappropriate patient care.

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