


Interventional Radiology Awareness Among Clinicians at Muhimbili National Hospital, Tanzania

Manpreet Kaur¹  · Fabian Laage Gaupp² · Ivan Rukundo³ · Azza A. Naif³ · Flora Lwakatare³ · Erick M. Mbuguje³ · Murray Asch^{4,5,6}

Received: 9 September 2020 / Accepted: 8 October 2020 / Published online: 5 November 2020

© Springer Science+Business Media, LLC, part of Springer Nature and the Cardiovascular and Interventional Radiological Society of Europe (CIRSE) 2020

To the Editor,

In October 2018, a training program for Interventional Radiology (IR) was launched at Muhimbili University of Health and Allied Sciences (MUHAS), Dar Es Salaam, Tanzania, creating the first accredited IR training program in East Africa. Teams composed of IR nurses, technologists, and faculty from North America have been training nurses, technologists, and residents/fellows, onsite [1]. One year post-implementation, we conducted a survey (Table 1) to assess awareness of local clinicians about the

IR service, aiming to identify their specific needs and expectations to improve the service. In this letter, we briefly present our findings.

The questionnaire was distributed among clinicians working at Muhimbili National Hospital (MNH), the main teaching hospital of MUHAS. The survey was self-administered, anonymous, voluntary, and filled in manually. It comprised nine multiple-choice and two open-format questions. 106 surveys were collected and 100 were considered for the analysis, covering one-third of doctors working at MNH. Six surveys could not be included due to missing and/or contradicting values. The data was analyzed using IBM[®] SPSS[®] Statistics.

Of the 100 respondents, 51 were attendings, 22 were residents, 27 were registrars and medical interns. 98% of clinicians were aware of the IR service at MNH, with the majority of physicians (84%) already referring patients to IR (Fig. 1). There was, however, consensus among most respondents (95%) that more information about these IR services was necessary for hospital staff and patients. This result was expected, as the program is new and the first of its kind in East Africa.

✉ Fabian Laage Gaupp
Fabian.laage-gaupp@yale.edu

¹ Ludwig Maximilian University of Munich, Munich, Germany

² Section of Vascular and Interventional Radiology,
Department of Radiology and Biomedical Imaging, Yale
School of Medicine, 20 York Street, New Haven, CT 06510,
USA

³ Muhimbili University of Health and Allied Sciences/
Muhimbili National Hospital, Dar es Salaam, Tanzania

⁴ Lakeridge Health, Oshawa, ON, Canada

⁵ Queen's University, Kingston, ON, Canada

⁶ University of Toronto, Toronto, ON, Canada

Table 1 Survey on awareness and needs of physicians regarding IR services at Muhimbili National Hospital

-
1. What is your designation?
- Staff, with specialty: _____
 - Resident (please mark your year) () 1st year () 2nd year () 3rd year
 - Other (please specify): _____
2. Have you heard about IR services at Muhimbili National Hospital?
- Yes
 - No
3. How did you hear about it?
- Colleague
 - Staff
 - Patient
 - Other: _____
4. Has your department referred any patients to the IR service?
- Yes
 - No
5. Which of the following procedures have your patients undergone?
- Abscess Drain Placement/Removal
 - Central Venous Access including PICC
 - Cyst/Lymphocele Aspiration/Drainage/Sclerosis/Exchange
 - Femoral Catheter Placement/Replacement
 - IVC foreign body retrieval
 - Permanent Catheter
 - Biliary Drainage, Stent, Exchange or PTC
 - Core Needle Biopsy
 - Embolization (i.e. Uterine Fibroid)
 - Fine Needle Aspiration
 - Nephrostomy or NU Tube Placement
 - Pleural Tapping
6. If "Yes," approximately how many cases have you referred?
- 1–2 cases
 - 3–5 cases
 - 5–10 cases
 - over 10 cases
7. In general, how would you rate the outcomes of the IR procedures performed on your patients?
-
8. Are there any IR procedures related to your specialty that you would like to see added to the IR service?
- _____
9. Do you feel more information about IR service is needed for hospital staff and/or patients
- Yes
 - No
10. If "Yes," do you have any suggestions for how this information should be provided?
- Presentation/Symposium MNH-Website
- Pamphlet or Flyer
- Other: _____
11. Other comments or suggestions:
- _____
-

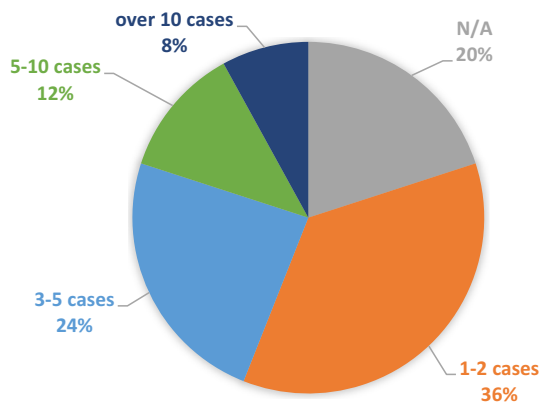


Fig. 1 Number of referred cases

Starting with non-vascular procedures, the IR curriculum has been designed to be extended to incorporate the often more complex vascular procedures by 2nd year of training [1]. The results show that the most commonly performed procedures to date are basic non-vascular procedures (Fig. 2). By February 2020, 336 procedures have been performed, 290 being non-vascular and 46 being vascular interventions (unpublished data). This is expected to change moving forward.

Procedures are exclusively performed with Tanzanian trainees as the primary operator under supervision of visiting faculty. All trainees are IR fellows, who have completed their Master of Medicine in Radiology. The findings demonstrate that the overall rating of the procedural

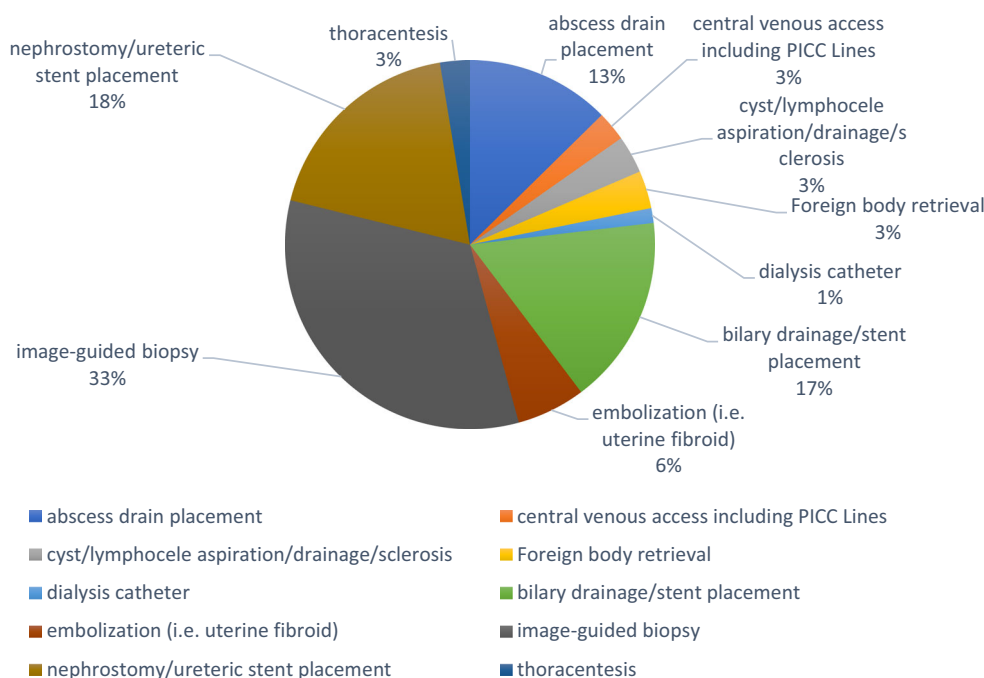
outcomes of IR procedures was between “good” and “very good”, confirming that the training model is successful.

Based upon suggestions made by responses to this survey, the MNH IR team is in discussions with the hepatology service to create a multidisciplinary team to screen patients at risk of hepatocellular carcinoma and then decide on what the most appropriate treatment would be. To this end, we are working to expand available IR services, including hepatic embolization and local thermal ablation.

Although current initiatives are somewhat stifled secondary to the current worldwide Covid-19 pandemic, we do plan to make other changes to satisfy the suggestions made. This includes building an IR page on the MNH website and initiating hospital wide teaching sessions to educate physicians and other healthcare providers about IR.

Given the location of MNH in the nation’s largest city and economic capital, these results may not be representative of the population throughout the rest of Tanzania. Additionally, not all departments were equally represented within the results. Considering these limitations, this study provides several important pieces of information. The results demonstrate that within its first year, the only IR service in Tanzania is known to most clinicians taking the survey. Moreover, the satisfaction regarding the procedural outcomes is between “good” and “very good”, emphasizing the great teaching progress that has been accomplished during this short period. The results provide an opportunity for further collaboration with other departments, implementing treatment guidelines and conducting research projects with the goal of improving patient care.

Fig. 2 Demand of offered procedures



Acknowledgements The authors would like to thank Frank J. Minja, Karen Asch, Ziad Abdul, Anish Gonchigar, Nadia Solomon, Fatima Bouloukt and Pritpal Singh Ghotra for their efforts and contributions.

Authors' Contribution MK contributed to the study conception, the data collection and analysis, wrote the first draft, contributed to revision of the manuscript. FLG contributed to the study conception, to writing and revision of the manuscript. IR, AN and EM contributed to the study conception, to the revision of the manuscript. FL contributed to the study conception and the data collection, contributed to the revision of the manuscript. MA contributed to the study conception and the data collection, contributed to writing and revision of the manuscript, approved the final version, and is accountable for the manuscript's content.

Funding This study was not supported by any funding.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval The questionnaire and methodology for this study was exempted from IRB Review by the ministry of health, community, development, gender, elderly and children at Muhimbili National Hospital (MNH/IRB/V/2020/89).

Informed Consent For this type of study informed consent is not required.

Consent for Publication For this type of study consent for publication is not required.

Reference

1. Laage Gaupp FM, Solomon N, Rukundo I, Naif AA, Mbuguje EM, Gonchigar A, et al. Tanzania IR Initiative: training the first generation of interventional radiologists. *J Vasc Interv Radiol.* 2019;30(12):2036–40.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.