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#### **TITLE**

A review of recommendations and implementations arising from Mortality and Morbidity conferences of an interventional radiology service.

#### **BACKGROUND**

Morbidity and mortality (M&M) conferences are regular meetings held by clinical departments for analysis of adverse patient outcomes through peer review. These conferences aim to identify errors, prevent their repetition, and improve patient outcomes by fostering transparency and continuous learning. However, they are time and resource intensive, and their efficacy in the context of interventional radiology (IR) remains under-explored. The aim of this study was to review M&M conferences performed in an IR service, tabulate and classify the recommendations made, and assess the outcomes based on implementation.

#### **METHODS**

This was a retrospective review of M&M conferences held between January 2020 and December 2022 by an IR service covering 3 hospitals. All patients cared for by the IR service with morbidity (related to the procedure) or mortality (of any cause) were presented for discussion at twice-monthly M&M conferences. Conference records were reviewed, and information on the IR procedures, complications, and recommendations arising from the meetings were collated. The recommendations from the preceding M&M conferences were reviewed and juxtaposed with the contemporary department guidelines and workflows to evaluate the extent of adoption and implementation.

#### **RESULT**

A total of 106 unique patients were presented at IR M&M conferences during the study period. Vascular interventions (27.4%), visceral organ biopsies and ablations (20.1%) and drainage catheter insertions (17.0%) were the most common procedures discussed. The majority of complications were major (77.4%), defined as grade C or higher on the Society of Interventional Radiology classification system. Bleeding (36.8%) was the most common complication encountered, and patients frequently underwent additional procedures (50.9%) as a result of the complications. For 79 patients, specific recommendations for change in clinical practice were made. There were a total of 113 recommendations, chiefly involving procedural technique (37.7%), departmental processes / workflows (32.1%) and clinical decision making (17.9%). Five (14.7%) recommendations pertaining to departmental processes / workflows were fully implemented as written institutional or departmental protocols. Three (7.5%) recommendations pertaining to procedural technique and one (5.2%) recommendation pertaining to clinical decision making were fully implemented and disseminated to the department by means of a formal education session. The rest of the recommendations were variably implemented by means of informal verbal dissemination. No correlation was found between type of procedure, severity of morbidity or category of recommendation and likelihood for recommendation to be fully implemented.

#### **CONCLUSIONS**

Despite being laborious and time consuming, M&M conferences have the potential to prompt changes in clinical practice, allowing IR services to learn from past errors and complications. Our experience suggests that a minority of recommendations arising from M&M conferences are subsequently fully implemented in the form of written protocols or formal education sessions. A formal process of adoption of M&M conference recommendations with timelines is suggested to improve the effectiveness of the recommendations.

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