

Chair's Rounds

For many training programs, a weekly Chair's Rounds is an opportunity for residents to present challenging cases to the Chief of Medicine with the hope of identifying new diagnostic and/or therapeutic insights for the management of a given patient. The quality of this free-form discussion (sometimes a "free-for-all") generally reflects the depth of knowledge and experience of the Chair with the patient's clinical situation. However, recommendations and opinions may not reflect the best (or current) evidence for guiding real-life decisions at hand. We revised the format of our Chair's Rounds 3 years ago to improve medical decision-making directed toward specific patients while simultaneously teaching principles of evidence-based medicine (EBM) (1).

CHAIR'S ROUNDS

Our goal was to integrate the tools and methods of EBM into the care of specific patients (1). We focused on improving residents' understanding of the quantitative measures of medicine, formulating appropriate clinical questions, conducting a literature search to answer the question, and learning clinical epidemiologic guidelines for critically assessing the selected literature. Residents' case presentations and diagnostic reasoning remain key elements of the Rounds, but we reorganized the time to achieve the above objectives. Weekly Chair's Rounds are 75 minutes long and focus on 3 separate activities: the "statistical hot seat," critical appraisal of a specific case-related article, and new case presentations with question formulation.

THE STATISTICAL HOT SEAT

Each week, a clinical problem is circulated to all residents and students on medical service 2 days before Rounds. The clinical problem is derived from previous cases and focuses on data interpretation skills. The Chief Medical Residents select 1 inpatient team to lead the discussion—that is, to be in the "hot seat." Those spared the hot seat are encouraged to throw lifelines to the team on the hot seat. Problems are selected to span the most common measures of medicine: diagnostic test characteristics including the use of likelihood ratios, and the measures commonly used to assess treatment outcomes or etiology. This discussion generally concludes after 20 to 25 minutes when the concepts are mastered or the perspiration level has peaked.

EXAMPLE 1

A 65-year-old man with a history of an idiopathic pulmonary embolism (PE) 7 months ago received anticoagulation therapy for a total of 6 months. Warfarin therapy was stopped 1 month ago, and you are concerned about recurrent PE. Based on a recent study (2), you consider ordering D-dimer testing to guide your decision. This study prospectively evaluated 3 groups: 1 with normal D-dimer levels ($n = 385$) and the other 2 groups with elevated D-dimer levels. One group was randomized to ongoing anticoagulation and the other to no anticoagulation. The major results are depicted in the Table.

Example 1: Outcomes for patients after D-dimer testing

Outcomes (≥ 9 mo follow-up)	Normal D-dimer ($n = 385$)	Abnormal D-dimer without anticoagulation ($n = 120$)	Abnormal D-dimer with anticoagulation ($n = 103$)
Deep venous thrombosis and/or pulmonary embolism	24	18	3

Questions for critical appraisal:

- 1) What is the incidence of venous thromboembolic events (VTEs) for each group?
- 2) What is the relative risk for VTE in those with abnormal D-dimer level receiving anticoagulation therapy compared with those not being anticoagulated?
- 3) What is the number needed to treat?
- 4) In those with abnormal D-dimer who are being anticoagulated, what is the relative risk reduction in VTE?

THE CRITICAL APPRAISAL COMPONENT OF ROUNDS

Based on the previous week's case presentation and problem formulation, an article is identified by the Chief in conjunction with the Chief Medical Residents. The case summary, the question formulation, a brief review of the article, and key questions useful in assessing article validity, generalizability, and importance (1) are prepared and circulated at least 2 days before Rounds. This ensures that all in attendance have the same basic information and level of preparation. During Rounds, the Chief reviews the previous case and the question and then provides the context for the current question. The residents and students come prepared to address the key questions. With guidance and some directed queries by the Chief, their assessments are then applied to the article. This process takes approximately 25 to 30 minutes. (Note: By this time the Chief's office is becoming uncomfortably humid.)

EXAMPLE 2

A 65-year-old man with a remote history of asymptomatic cholelithiasis, diabetes mellitus, hyperlipidemia, and hypertension was admitted with a 4-day history of severe abdominal pain. There was no history of alcohol use. Vital signs were normal, and other than epigastric discomfort with light palpation, the remainder of the physical examination was noncontributory. Laboratory results on admission revealed elevated levels of serum lipase (3 x upper normal limit [UNL]) and alkaline phosphatase (1.5 x UNL); serum amylase and total bilirubin levels were normal. A computed tomography (CT) scan in the emergency department revealed several tiny gallstones and a slightly thickened gallbladder wall but no intrahepatic or extrahepatic biliary dilatation. The patient was presumptively diagnosed with gallstone-induced pancreatitis. A decision was made to obtain magnetic resonance cholangiopancreatography (MRCP). The study showed no evidence of dilatation of the common bile duct or of the intrahepatic ducts and no intraductal stones. Did this study exclude choledocholithiasis or was endoscopic retrograde cholangiopancreatography (ERCP) needed? *(continued on page A-9)*

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FORMULATED QUESTION

In patients with suspected gallstone-induced acute pancreatitis, is MRCP diagnostically useful in excluding a common bile duct stone?

SEARCH

PubMed was searched using predeveloped clinical query filters (3) for diagnosis with increased specificity for gallstone pancreatitis. The search produced 51 citations. The most recent citation suggested that MRCP was the new gold standard and was selected for review (4).

CONTEXT

After the epidemiology, differential diagnosis, and complications of acute pancreatitis were briefly reviewed, the discussion focused on gallstone-induced pancreatitis and the appropriateness and timing of ERCP and sphincterotomy. After reviewing the operating characteristics of other noninvasive or less-invasive tests for choledocholithiasis compared with ERCP, we focused directly on MRCP and the question generated by our case.

SELECTED ARTICLE

The complete case summary and article summary (4) are available upon request.

DESIGN

Retrospective cohort of consecutively referred patients with suspected common bile duct stones at 2 U.K. hospitals over approximately 5 years.

TEST

MRCP.

GOLD STANDARD

ERCP and additional imaging/surgery as needed to identify hepatobiliary pathologic conditions.

ANALYSIS

Sensitivity, specificity, and positive and negative predictive values were calculated.

RESULTS

Of 351 patients referred for MRCP, 221 had both MRCP and ERCP.

Example 2: Diagnostic test features for detecting choledocholithiasis

Test result	Hepatobiliary disease	No hepatobiliary disease	Total
MRCP+*	97	19	116
MRCP-†	2	103	105
	99	122	221

*Positive predictive value = $97/116 = 84\%$

†Negative predictive value = $103/105 = 98\%$

AUTHORS' CONCLUSION

MRCP is highly sensitive and specific for choledocholithiasis and avoids the need for invasive imaging in most patients with suspected choledocholithiasis.

CRITIQUE

Although the authors used an appropriate gold standard, there is no assurance that the MRCP results were interpreted blindly or independently from ERCP results. Further, included patients were a consecutive sample of those referred for MRCP—not consecutive patients with a defined clinical presentation (i.e., suspected gallstone-induced pancreatitis). Only 63% of those referred had MRCP and ERCP comparisons. Of those included, 59 had pancreatitis. In addition, 158 patients had ERCP with sphincterotomy and balloon trawl of the common bile duct, which may alter the results in patients who have MRCP after ERCP ($n = 120$). Lastly, with respect to validity assessment, ERCP was attempted in 283 of the 337 patients referred for MRCP. This suggests that only the sickest patients were studied—a “gold standard” bias. Given concerns about internal validity, we decided that this article did not provide a valid estimate of sensitivity and specificity for MRCP.

THE CASE PRESENTATION COMPONENT OF ROUNDS

By the time we have finished our critical appraisal of the article from the previous week's Rounds, the group is clearly dehydrated. We conclude the session (the last 15 to 20 min) by presenting a new case (using an iterative approach), discussing differential diagnosis, and formulating a key question that will drive next week's learning issue.

CONCLUSION

Chair's Rounds is an evolving weekly conference aimed at introducing students and residents to the principles of EBM grounded in the unique challenges of their own patients. Over the past 2 years, we have organized and circulated numerous case summaries along with critically appraised literature directed at a wide variety of questions that have emerged.

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