

Consensus Report on Standardization of Sincalide Cholescintigraphy

A consensus report on standardization of sincalide cholescintigraphy for calculation of a gallbladder ejection fraction (GBEF) and its clinical utility has recently been published in the *Journal of Clinical Gastroenterology and Hepatology* (1). The report is the result of an initiative by the General Clinical Nuclear Medicine Council (GCNMC) of SNM, which invited an interdisciplinary panel to review the clinical value of this technique, evaluate the various methodologies in clinical use, seek consensus regarding the best ways to perform the study, and suggest possible future issues that remain to be addressed.

This report is a second successful attempt of the GCNMC (previously the SNM Gastrointestinal Council) to establish standards of practice in nuclear medicine that are a consensus of recommendations by both the imaging community and the referring physicians. The first council consensus on standardizing gastric emptying studies was also announced in Newsline (2). It is hoped that such consensus reports will lead to more uniformity of practice and improved patient care.

The consensus panel was made up of 12 members from various medical specialties, including gastroenterologists, surgeons, primary care physicians, nuclear medicine physicians, and a nuclear medicine technologist. Each panel member reviewed and critically analyzed a different aspect of the published literature, and discussion ensued. A consensus and recommendations ultimately resulted.

The panel observed that sincalide cholescintigraphy with calculation of a GBEF is widely used to confirm the clinical suspicion of functional gallbladder disease, also referred to as biliary dyskinesia or chronic acalculous cholecystitis. However, evidence-based results confirming the scintigraphic test's utility are limited. Many publications have reported that a low GBEF is predictive of a good response to cholecystectomy with pain resolution; however, all but 1 of the investigations were retrospective, most had small patient numbers, many different sincalide infusion methodologies were used, and normal values varied and were not all well validated. The 1 prospective and randomized study included a small number of patients. A small number of studies did not find a low GBEF to be a useful predictor of symptomatic improvement after surgery. The consensus panel concluded that a large prospective multicenter trial is needed to resolve the question of the value of the GBEF for predicting response to cholecystectomy.

The consensus report also reviewed the published literature regarding sincalide infusion methods and normal

values. Lack of standardization of this test between imaging centers has raised questions about its clinical utility. The panel recommended that a 60-min infusion method described recently in *The Journal of Nuclear Medicine* as the best-validated method and that it should become the standard infusion method (2). This was a multicenter study of 60 normal individuals comparing 3 infusion times (15, 30, and 60 min) of 0.02 $\mu\text{g}/\text{kg}$ sincalide. Previous studies had shown the unreliability of shorter (3 min) infusion methods because of the wide variation of GBEFs in normal individuals and the lack of well-documented normal values. The multicenter comparison trial measured the coefficient of variation (CV) to determine which method had the least variability between subjects. The 60-min infusion method had the smallest CV (19%), compared with 30-min (35%) and 15-min (52%) ($P < 0.0007$) infusions. The lower range of normal for the 60-min infusion method was 38% (5th percentile). The panel members recommended that this methodology and normal values should become the standard clinical infusion method and be used in any future multicenter prospective trial.

The GCNMC recommends that Newsline readers review this consensus report and the multicenter investigational study discussed. Standardization of sincalide cholescintigraphy is important to ensure that it will continue to be requested by referring physicians in their decisions regarding patients with chronic recurrent biliary colic. It is hoped that in the near future a prospective multicenter trial can be performed to confirm the clinical utility of sincalide cholescintigraphy.

REFERENCES

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2. Ziessman HA, Tulchinsky M, Lavelly WC, et al. Sincalide-stimulated cholescintigraphy: a multicenter investigation to determine optimal methodology and gallbladder ejection fraction normal values. *J Nucl Med*. 2010;51:229-236.

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