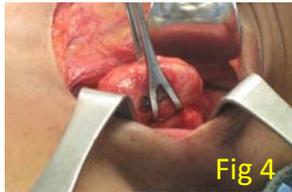
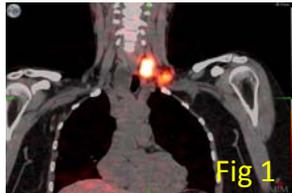


# Radio-guided exploration facilitates surgical cytoreduction of neuroendocrine tumors

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## Introduction

Radio-guided exploration can be an essential tool in the successful cytoreduction of neuroendocrine tumors.

## Hypothesis

The choice of the proper radioisotope, dose and time interval between injection and exploration are the major factors responsible for attaining a successful outcome.

## Methods

244 patients undergoing cytoreduction between November 2006 and July 2009 were reviewed to determine the optimal dose, interval injection, and the impact of radio-guided exploration.

## Results

46 patients had gamma probe guided explorations including; 3 patients injected with  $^{99m}\text{Tc}$ , 3 patients injected with  $^{123}\text{I}$  MIBG (3) and  $^{111}\text{In}$  pentetretotide in 40 patients with midgut carcinoid. In 37 out of 40 (93%) of the  $^{111}\text{In}$ -pentetretotide guided explorations the gamma probe was deemed helpful in localizing and differentiating tumor from normal tissue. In 5 out of 6 neck and mediastinum explorations the gamma probe was essential for completing a quick, safe and minimally invasive procedures.  $^{123}\text{I}$  MIBG was not useful in all three patients included in this review. The optimal doses and interval between injection and exploration of  $^{111}\text{In}$  pentetretotide is 6 mCi injected 6-7 days prior to surgery.

## Conclusion

Radio-guided exploration is a useful adjunct and sometimes an essential tool for resecting neuroendocrine tumors, with the right isotope injected at the optimal dosage and time.

