

## عنوان مقاله:

Comparing diagnostic performance of  $^{131}\text{I}$ -metaiodobenzylguanidine ( $^{131}\text{I}$ -MIBG) and  $^{99\text{mTc}}$ -hydrazinonicotinyl-Tyr $^3$ -Octreotide ( $^{99\text{mTc}}$ -HYNIC-TOC) in diagnosis and localization of pheochromocytoma and neuroblastoma

## محل انتشار:

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## خلاصه مقاله:

**Introduction:** The present study was aimed to assess the diagnostic performance of the two imaging methods of  $^{131}\text{I}$ -metaiodobenzylguanidine ( $^{131}\text{I}$ -MIBG) and  $^{99\text{mTc}}$ -hydrazinonicotinyl-Tyr $^3$ -Octreotide ( $^{99\text{mTc}}$ -HYNIC-TOC) in diagnosis and localization of pheochromocytoma and neuroblastoma. **Methods:** This study was conducted on 40 consecutive patients with positive pathological results for pheochromocytoma or neuroblastoma. The patients underwent both  $^{131}\text{I}$ -MIBG and octreotide scintigraphies. By using the findings of cytopathology, biomarkers, imaging studies, as well as the results of a six-month follow-up, a composite reference standard (CRS) was defined as the diagnostic gold standard. **Results:** Overall comparison of these two agents revealed higher sensitivity for  $^{131}\text{I}$ -MIBG than octreotide study both in patient-based analysis (100% vs. 80.9%, respectively), and lesion-based analysis (94.4% vs. 80.56%, respectively). In pheochromocytoma  $^{131}\text{I}$ -MIBG and octreotide are both highly sensitive (100%), while  $^{131}\text{I}$ -MIBG is more specific (100% vs. 87.5%). In neuroblastoma,  $^{131}\text{I}$ -MIBG is more sensitive than octreotide (100% vs. 81.25%). **Conclusion:** Our study shows superiority of  $^{131}\text{I}$ -MIBG over octreotide scanning in detection of both neuroblastoma and pheochromocytoma lesions. However, a combination of these two diagnostic tools provides more complete information on the nature and the site of lesions. The first suggested study is  $^{131}\text{I}$ -MIBG scanning, and if it is not available, or detecting precise location of all lesions is of concern, octreotide scanning can be helpful as a complementary study. Furthermore, in case of octreotide positive lesions, follow-up can be performed with octreotide scan with less radiation burden.

## کلمات کلیدی:

$^{131}\text{I}$ -MIBG, Somatostatin analog, Octreotide,  $^{99\text{mTc}}$ -HYNIC-TOC, Pheochromocytoma, Neuroblastoma

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