Table 4. Impact of FDG-PET on clinical decision making. All cases of diagnosed adrenal masses were reviewed. The FDG-PET results were evaluated and their contribution to clinical decision making determined.

<table>
<thead>
<tr>
<th></th>
<th>Benign adrenal mass</th>
<th>Ectopic Cushing’s syndrome</th>
<th>Pheochromocytoma</th>
<th>Malignant adrenal mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>100</td>
<td>2</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>Insignificant FDG-PET contribution, n</td>
<td>91</td>
<td>2</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Significant FDG-PET contribution, n</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Correct FDG-PET contribution, n</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Incorrect FDG-PET contribution, n</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

adrenal mass diagnosis at a large general hospital was examined. To our knowledge, this is the first study to comprehensively analyze the FDG-PET findings, performance, and effectiveness regarding the adrenal gland in an unselected patient population based on routine clinical practice. Our study clearly indicates that although FDG-PET, when used alone, is effective in differentiating malignant from benign adrenal mass, it only adds limited additional information on the nature of adrenal mass in modern-day routine clinical practice.

We describe, for the first time, the prevalence (3.4%) of adrenal FDG uptake in patients undergoing FDG-PET for cancer staging or diagnosis. As the prevalence of adrenal FDG uptake in patients with lung cancer in our study (8.3%) is very similar to the 10.6% calculated from a previous report with a large number of patients, the overall prevalence described in our study probably reflects the prevalence of adrenal FDG uptake in general practice. We demonstrate that the PET+ and CT+ adrenal lesions belong to two overlapping but different groups, and most of the former are malignant but most of the latter are benign. We further demonstrate that more than half of the PET+ patients had corresponding adrenal mass on anatomical imaging, but interestingly, 43% of them did not. The nature of the PET+/CT– lesions

Figure 5. MRI, CT, and FDG-PET axial images of the same left adrenal mass 3.5 years apart. The adrenal mass was from a 71-year-old male with renal cell carcinoma metastasis. A and E, out-of-phase MRI showing similar no drop of signal; B and F, enhancement after gadolinium on T1 MRI showing similar enhancement; C and G, pre-contrast CT with Hounsfield units of 25 and 29, respectively; and D and H, FDG-PET with SUV of 1.2 and 5.2, respectively.