ARTERIOGRAPHY, VENOGRAPHY AND RADIO-ISOTOPES IN THE DIAGNOSIS OF CANCER OF THE KIDNEY

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ARTERIOGRAPHY

In 1981, renal angiography is no longer necessary in order to make a diagnosis and to institute appropriate treatment for renal cancer. However it remains of great value in the diagnosis of extension of the tumour and for the knowledge of the arterial and venous disposition which the surgeon will encounter. From a technical point of view, this information is important.

TECHNIQUE

As with all invasive tests, arteriography involves certain risks. However in the hands of experienced operators, these are minimal. Our arteriographic team has done over 7,000 diverse angiographies and has experienced approximately one complication per 1,000 cases.

After puncturing the femoral artery according to the classical Seldinger technique, the aorta is catheterized after which:

(a) Aortography (Fig 1) allows one to visualize the entire abdominal arterial vessels to isolate the tumour, its pedicle or pedicles and to show an extension, particularly to the mesenteric territory, the adrenals, the contralateral kidney or the liver. It also allows the discovery of other vascular lesions.

(b) Selective opacification of the renal arteries (Fig 2a) should always be carried out, injecting a large quantity of

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Fig. 1. Translumbar aortography - shows two right renal arteries with stenoses of the main right renal artery and of the left renal artery in a patient with a tumour of the upper pole of the right kidney (arrow).

contrast medium in order to obtain a venous return that can be analyzed (Fig 2b).

It also allows the utilisation of drugs to modify arterial function, if, after standard posterior, anterior and lateral views, the diagnosis remains uncertain. Selective exploration of the celiac trunk is desirable in order to search for a neighbouring extension of the primary tumour or of metastases (especially hepatic lesions).

RESULTS

If a diagnosis appears evident after angiography, the X-rays should be analyzed methodically starting with the trunk of the renal artery to the trunk of renal vein: vessels penetrating the tumour and their extension, tumorography, the peritumoural venous circulation and the large venous axes.

Angiographically, there are two different forms of renal