

similar case which had appeared in the literature even before Dr. Samuels' first article. This was a paper by Woodbury and Beierwaltes in the September 1967 issue of the *Journal of Nuclear Medicine* (8:646-651, 1967.) (Dr. Samuels even cites this in his 1968 paper.) This report deals with the delineation of osteosarcoma metastases by  $^{18}\text{F}$  in man and rats using the same principle, of course, as with radiostrontium scanning. It was because of the possibility that we had overlooked some previous article that we refrained from using the term "first" in our report and merely stated that it was an unusual finding.

The moral of all this is that no matter how unique a finding you think you have observed someone has probably made it—and published it—previously. And no matter how thorough a literature search you

think you have conducted, there are one or two big ones which always get away.

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#### FURTHER OBSERVATION ON $^{131}\text{I}$ -BSP CLEARANCE IN THE DUBIN-JOHNSON SYNDROME

I would like to add another short note to my article (1) and the letter to the editor from Lull (2).

In the previous communication we reported that  $^{131}\text{I}$ -mono-iodide BSP (prepared by Dainabot Lab., Tokyo, Japan) has unique value in differentiating cases with Dubin-Johnson syndrome from cases with Rotor syndrome and Gilbert disease. Iodine-131 rose bengal has limited value for this purpose since this dye is excreted from the liver quickly in all these cases.

I recently had the opportunity to study a whole family membership with two cases of Dubin-Johnson. We expected to see the presence of modified  $^{131}\text{I}$ -BSP clearance in other family members similar to abnormal  $^{64}\text{Cu}$  clearances in relatives of patients with Wilson's disease. This did not occur; however, we did observe similar delayed clearance of  $^{131}\text{I}$ -di-iodide BSP (prepared by Dainabot Lab) in cases with the Dubin-Johnson syndrome.

Thus it became clear that labeled BSP, both mono-iodide and di-iodide, is useful and has unique value in differentiating between patients with constitutional hyperbilirubinemia even though clearance of  $^{131}\text{I}$  di-iodide BSP is remarkably slower than  $^{131}\text{I}$ -mono-iodide BSP.

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#### UNIDIRECTIONAL VERSUS BIDIRECTIONAL SCANNING

It has been said (1) that unidirectional scanning has not been generally accepted because of the added time consumed relative to bidirectional scanning. To believe this is to deny the whole purpose of unidirectional scanning.

The facts are best demonstrated by taking a concrete example. In this department we routinely perform brain scans unidirectionally at a speed of 100 cm/min with the "fly-back" speed of 500 cm/

min provided on our Picker machine. With a line spacing of 0.32 cm, a scan comprising 50 lines each 25 cm long takes 15 min. We use a time constant of 0.5 sec, corresponding to a space constant of 0.8 cm. If we accept the fact that in the bidirectional mode the space constant is limited to about 0.05 cm to avoid undue scalloping, then the scan speed must be reduced to 6 cm/min to enable a time constant of 0.5 sec to be used. The time required to produce