

pelvic pain, where there is often little correlation between the objective signs and the symptoms, and in complex clinical conditions that are hard to interpret.

Some of the laparoscopic pictures, documented here, are of interest.

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## Mammary scanning with $^{67}\text{Ga}$

by

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$^{67}\text{Ga}$  (<sup>1</sup>) has been suggested as a means to the diagnosis of mammary neoplasia. This is a gamma ray emitting substance with a brief half-life (78 hours), which is electively concentrated in neoplasms of the soft tissues (<sup>2,3</sup>). This radio-nuclide, which easily crosses the cellular membrane (<sup>4</sup>), becomes bound to the microsomal proteins of the neoplastic cells (<sup>5</sup>), but also to those of actively proliferating normal tissues (<sup>2,3,6</sup>) or at the site of inflammation (<sup>7,8,9</sup>). It has little affinity for necrotic tissues or those in a phase of sclerosis and involution.

### MATERIAL AND METHOD

An examination was made of 45 patients aged between 20 and 73 years, who had signs of mammary pathology. The clinical diagnosis was always checked histologically, and showed 14 malignant neoplasms of various clinical stages, and 31 benign neoplasms.

$^{67}\text{Ga}$  was administered intravenously at a dose of 2.5 mCi, independently of the body weight.

The first scanning was done after 48 hours, a second after 72 hours, and sometimes a third after 120 hours in case of doubt.

Whole body scanning was carried out whenever an intense uptake zone affecting the breast was present, in order to investigate possible metastases.

We used a sliding speed for the probe which was not very high (60-85 cm/min) and suppression of base of about 25-50%. The apparatus was used with an aperture adjustment of 130-320 KeV, so as to include about 43% of the radiation beam emitted by the  $^{67}\text{Ga}$ .

Scanning was carried out with the patient supine, with the arms raised, so as to avoid interference due to accumulation of the radio-nuclide in the liver and stomach. The breast was also explored in lateral projection.

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The finding was considered negative when a homogeneous distribution of the gamma wave emission was present. Positive findings were characterized by circumscribed or diffuse areas of increased uptake of the radio-nuclide by the mammary tissue on one side only. A doubtful finding was characterized by non-

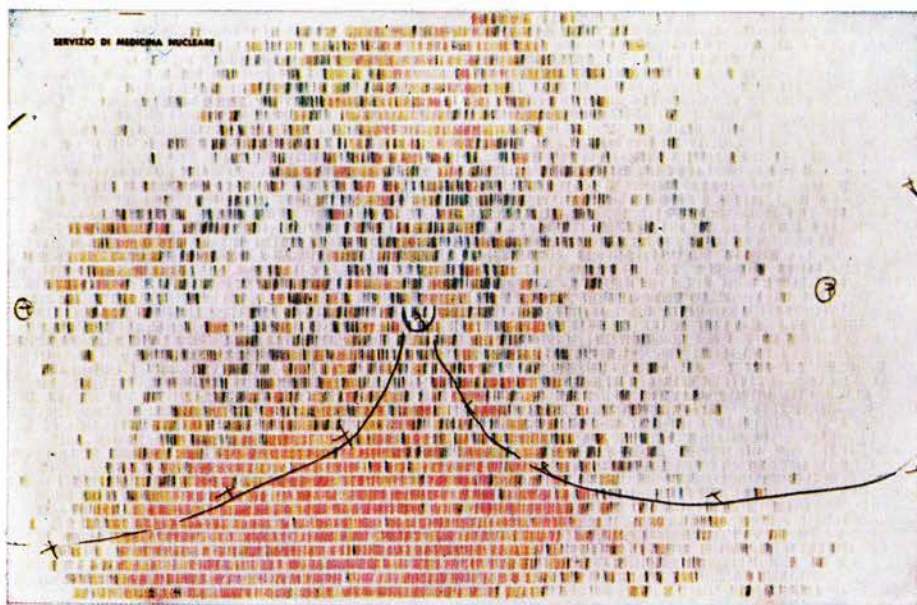


FIG. 1 - P.M., aged 66. Solid carcinoma infiltrating the right breast. Stage II ( $T_2 - N_1 - M_0$ ).

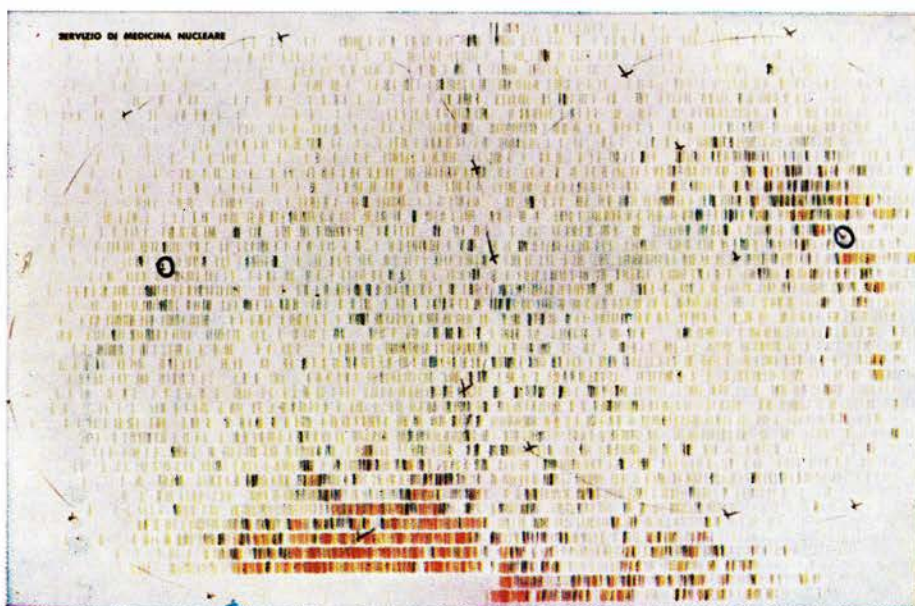


FIG. 2 - P.M.R., aged 53. Solid carcinoma infiltrating the left breast. Stage III ( $T_3 - N_1 - M_0$ ).

homogeneous distribution of the radio-nuclide, but without any areas of marked increased uptake.

The scintigraphic assessment was always done without reference to any clinical notes.

## RESULTS

The scanning gave positive findings in malignant neoplasia in 7 cases out of 14 (Table 1). All the  $T_3$  forms were positive, and half the  $T_2$  forms. All the  $T_1$  forms were negative, and half the  $T_2$  forms (Table 2).

Table 1. *Comparison between histological findings and scintigraphic findings*

Histological diagnosis	Scintigraphy		
	Positive	Negative	Doubtful
Malignant neoplasms 14 cases	7	7	—
Benign neoplasms 31 cases	6	18	7

Table 2. *Comparison between dimensions of the lesion and scintigraphic findings*

		Positive	Negative
$T_1$	2	—	2
$T_2$	10	5	5
$T_3$	2	2	—
$T_4$	—	—	—

The following results were obtained in the benign neoplasms:

18 negative findings  
7 doubtful findings  
6 positive findings.

## CONCLUSION

Positive results from mammary scanning after the intravenous administration of  $^{67}\text{Ga}$  were conditioned by the size of the lesion. In addition, the dimension being equal, this positivity could depend, more than the malignity, upon biological factors that interfered with fixation of the radio-nuclide. False negativity might also depend on the slow rate of growth of the neoplasm. False positivity might be dependent upon the rapid growth of benign lesion.

Lavender (<sup>8</sup>), in analogous conditions, found a similar incidence of errors.

The results obtained with  $^{32}\text{P}$  (<sup>1,10,11</sup>) and with mercury bichloride (<sup>12</sup>) were much more satisfactory.

Radioactive gallium cannot be considered the radio-isotope of choice for mammary pathology, as has been hoped.

The nuclide is not a selective indicator of neoplastic tissue; its concentration is related to simple tissue proliferative activity, independently of its nature.

Scanning with  $^{67}\text{Ga}$  might be used solely for purposes of prognosis for evaluation of the rate of development of the lesion.

### SUMMARY

The authors report the results obtained with  $^{67}\text{Ga}$  in the scintigraphic exploration of the breast.

They conclude that the radio-nuclide being tested is of no use in diagnosis of mammary neoplasia, due to the high percentage of false negative results.

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## Amniotic fluid embolism analysis of a clinical case

by

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Amniotic fluid embolism was described for the first time some 50 years ago, but its clinical significance has only been appreciated during the past 35 years <sup>(1,2,3,4)</sup>.

Its incidence is difficult to evaluate <sup>(4)</sup>. According to the literature, the rates vary from 1/8000 to 1/37323 births <sup>(2,3,5,6)</sup>; while some authors <sup>(7)</sup> have attributed 10% of 1400 maternal deaths to amniotic fluid embolism.

The percentage of patients who suffer amniotic fluid embolism with no unfavourable results is not known. Anderson found instances in the English literature <sup>(3,7,8)</sup> of 15 patients who had survived episodes with the characteristic manifestation of this morbid condition.

However, despite such a very low incidence, this obstetric accident remains an important cause of maternal and foetal death during labour, delivery and immediately afterwards <sup>(3,4,6,9)</sup>.

Even though little has been added to the previous descriptions by various authors on the problems of non-coagulability of the blood or the treatment of

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