

EARLY DIAGNOSIS OF HYDATIDIFORM MOLE BY MEANS OF AMNIOGRAPHY

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The diagnosis of an intact hydatidiform mole can be a perplexing clinical problem. Physical and radiographic examination and even chorionic gonadotrophin assays are often inadequate in differentiating a mole from other pregnancy states. In recent years various diagnostic aids have been tried, for example, amniocentesis, uterine sound test, vaginal cytology, pelvic angiography, placental biopsy, ultrasonics and more recently, immunological assay of serum chorionic gonadotrophin. A good diagnostic aid should combine accuracy, speed, simplicity and safety. None of the methods listed satisfies all four criteria.

The technique of amniography was first described in 1930 by Menees, Miller and Holly in the localisation of placentae near term. In 1957 Bayan and Apelo of Philippines employed this method in diagnosis of hydatidiform mole. More recently, MacLain (1964) in U.S.A., Via and Rossi (1965) in Italy and Torres and Pelegrina (1966) in Puerto Rico have all been favourably impressed with the value of this method in the early diagnosis of molar pregnancy.

TECHNIQUE

Bowel Preparation

Bowel preparation before the X-ray examination is not essential but desirable. This can be achieved by the use of a mild purgative the night before and a Dulcolax suppository in the morning.

Premedication

This is usually not required. In highly nervous and apprehensive patients premedication with an injection of 50 mg Promethazine is helpful.

Local Anesthesia

Lignocain 0.5% or 1% is used to infiltrate the abdominal wall.

Instruments

The following instruments should be laid out on the trolley:

1. Two 5 inch 18 gauge needles.

2. Three 20 ml syringes.
3. Two 2 ml syringes.
4. A few subcutaneous and intramuscular needles.
5. Two ampules (20 mls each) of 76% Urografin warmed to body temperature.

Procedure

This procedure should preferably be carried out in the X-ray department under aseptic conditions. The patient lies on her back on the X-ray table with her abdomen exposed. The abdominal skin is cleaned with an antiseptic solution and draped. At a point 2 to 3 finger breadth below the umbilicus in the midline the skin is infiltrated with the local anesthetic down to the level of peritoneum. While waiting for the local anesthetic to diffuse, 0.5 ml of 76% Urografin is injected intravenously as a test dose. A 5 inch 18 gauge needle is then introduced slowly into the uterine cavity percutaneously. Suction is applied with a 20 ml syringe as the needle is slowly advanced into the uterine cavity. If no liquor is aspirated a normal pregnancy is deemed unlikely and injection of Urografin then begins. Forty millilitres of 76% Urografin in two 20 ml syringes are then rapidly injected into the uterine cavity in several different directions. To facilitate the rapid injection Urografin should be warmed in a hot water bath to body temperature before use. The entire injection should not exceed 2 minutes.

Radiography

Because of the rapid disappearance of Urografin from the uterine cavity in molar pregnancy it is important to expose the films at the optimum time. The first film is taken 2 to 3 minutes after the injection of Urografin. First, an antero-posterior view is obtained with the patient in the supine position, the patient is immediately turned and placed in the left anterior oblique position and another film is taken. The films are immediately processed for inspection. Further exposures are rarely necessary, although films taken as late as 25 to 30 minutes after the injection may still be satisfactory.

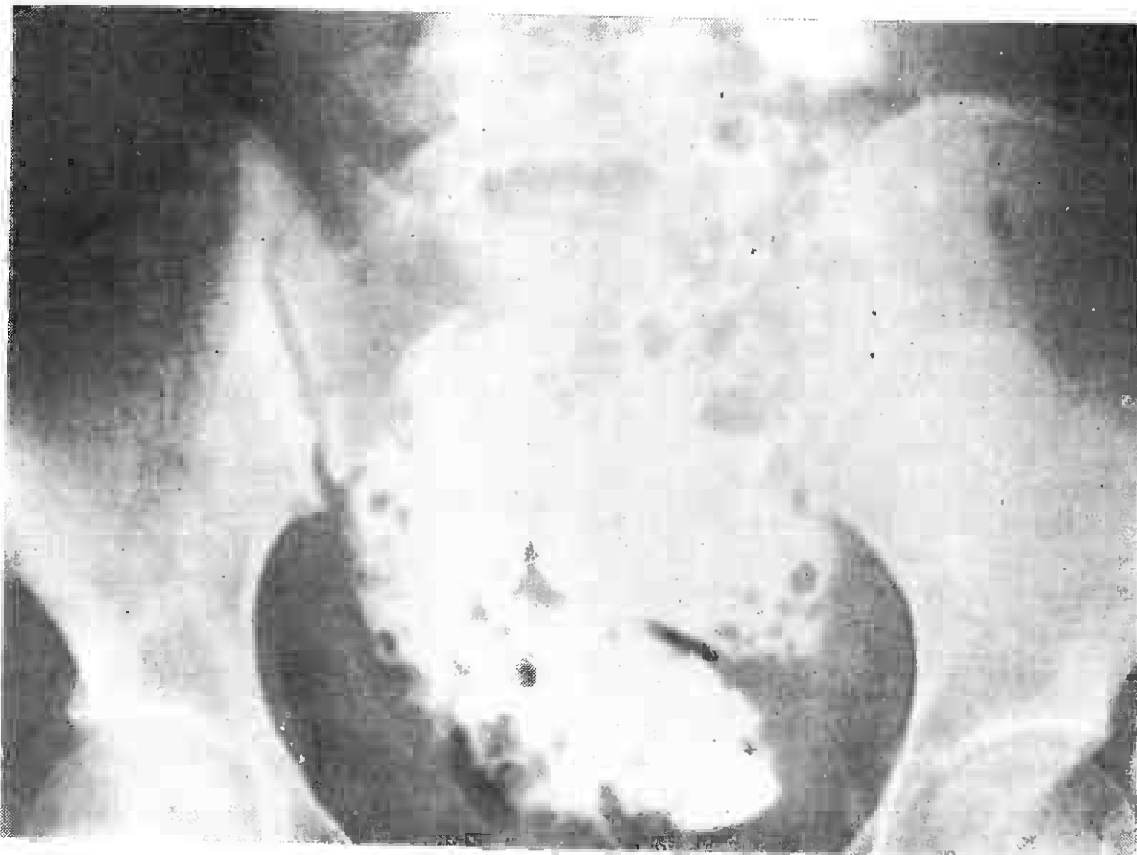


Fig. 1.

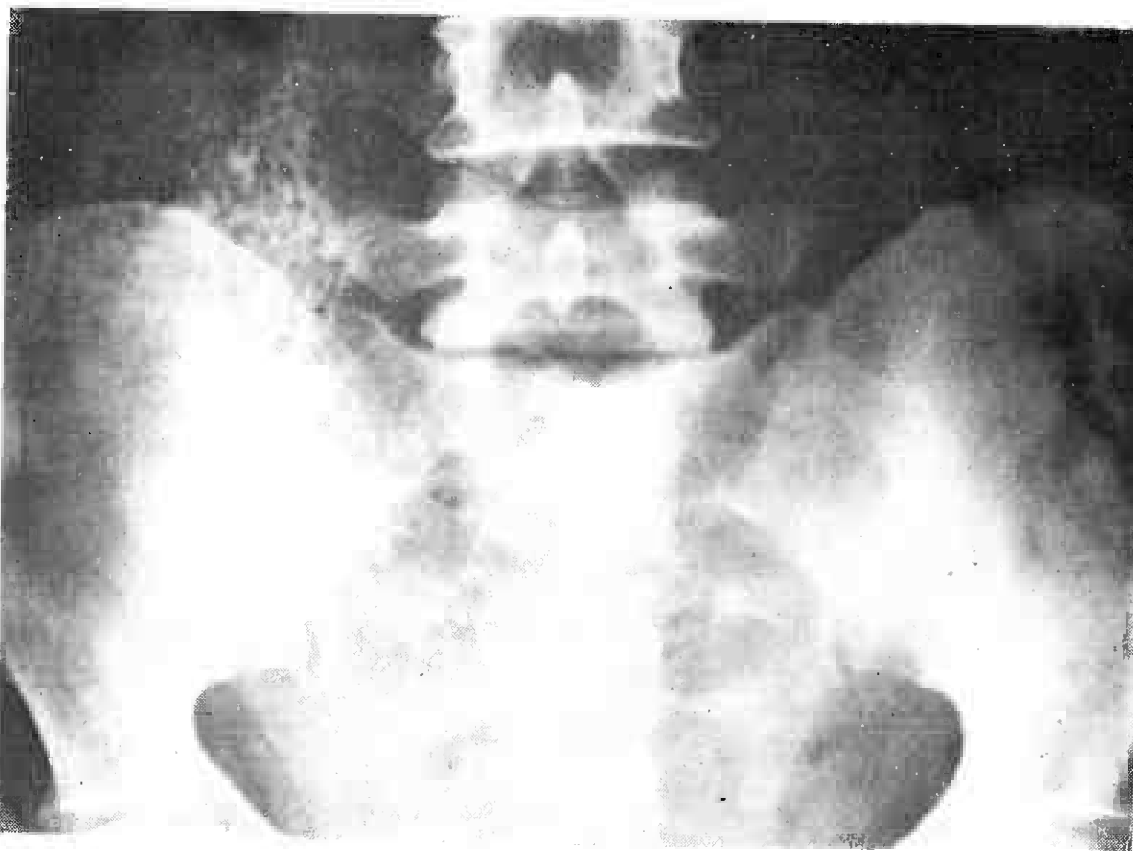


Fig. 2.

Note the typical honeycomb appearance.

RESULTS

Amniograms were performed in 8 cases of suspected molar pregnancy in the first trimester. In 7 cases a typical honeycomb appearance was obtained. The diagnosis of hydatidiform mole was confirmed in all seven cases. The remaining case turned out to be a normal pregnancy. No untoward reaction of any kind was encountered during or following amniography. The following are details of 2 illustrative cases:

A.B.H.S. aged 40, para 6 was admitted to the hospital on account of severe nausea and vomiting, colicky lower abdominal pain and slight spotting per vaginam. She was then 13 weeks pregnant. Examination revealed the uterus to be 16 weeks in size. There was no clinical sign of foetus in utero. There was no evidence of toxæmia. Molar pregnancy was suspected and she was kept under observation for the next 2 weeks. A plain X-ray of the abdomen in the meantime showed no sign of foetal skeleton. Amniocentesis cum amniography was then carried out. In the amniogram, the amniotic sac was outlined and a faint foetal vertebral column could be discerned. The pregnancy continued to term uneventfully and she was delivered normally of a healthy and normal infant. At post-partum laparotomy for tubal ligation a large fundal uterine fibroid was found. Up to the time of writing, the infant has been followed up for over 7 months and has shown no abnormality.

T.A.N. aged 46, para 14 was admitted to the hospital on account of spotting per vaginam off and on for over one month. She gave no history of excessive vomiting. Her periods occurred monthly and the last one took place 17 weeks ago. On examination she was found to be anaemic. There was no sign of toxæmia. The uterine size corresponded with the period of gestation. No sign of foetus could be demonstrated clinically. A plain X-ray of the abdomen revealed no evidence of foetal skeleton. The serum chorionic gonadotrophin level was consistent with that of a normal pregnancy. An amnio-

centesis cum amniography was then carried out. This showed the typical honeycomb pattern of molar pregnancy. The diagnosis was subsequently confirmed at operation.

SUMMARY AND CONCLUSIONS

1. The problem of early diagnosis of molar pregnancy in the first trimester has been briefly discussed.
2. The technique of amniography has been described.
3. The results of 8 cases investigated with this method are presented.
4. It is concluded that amniography is a simple and safe procedure which produces in a few minutes absolute and unequivocal evidence of molar pregnancy.

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REFERENCES

1. Bayan, F. & Apelo, R. (1957): "The Direct and Positive Diagnosis of Hydatidiform Mole, A preliminary Report," *Philipp. J. Surg.* 12, 1.
2. MacLain, C.R. (1964): "Amniography, A Versatile Diagnostic Procedure in Obstetrics," *Obstet. & Gynec.* 23, 45.
3. Menees, T.O., Miller, J.D., & Holly, L.E., (1930): "Amniography A Preliminary Report," *Amer. J. Roentgenol.* 24, 363.
4. Torres, A.H. & Pelegrina, I.A., (1966): "Intra-amniotic Injection of Dye in Early Diagnosis of Hydatidiform Mole," *Amer. J. Obstet. & Gynec.* 94, 936.
5. Via, E., Rossi, F., Martellucci, O., (1965): "The Value of Radiographic Examination with a Contrast Medium (Trans-abdominal contrast Uterography) in the Diagnosis of Vesicular Mole," *Riv. Radiol.* 5, 979.