DECALCIFYING ALGODYSTROPHY OF THE HIP IN PREGNANCY

A case report

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SUMMARY

Description of a case of decalcifying algodystrophy of the hip in pregnancy, an infrequent syndrome of unknown etiology, characterised by pain in the hips, radiographic picture showing demineralisation of the head of the femur and of the acetabulum, leaving unchanged the articular rima; generally rapid and with spontaneous regression after delivery.

In 1959 Curtiss ([4]) was the first to describe three cases of pregnant women with painful symptomology of the hip, and segmentary transitory demineralisation of the head of the femur and of the acetabulum. Successively De Marchi (1956) ([5]) and Hunder (1968) ([7]) reported clinical cases similar to that of Curtiss, in females, both in pregnancy and otherwise, and in males.

In 1968 Lequesne ([9]) affirmed that this pathology was to be ascribed to a well defined syndrome to be called "decalcifying algodystrophy of the hip" (D.A.H.) and in the same year Cayla ([3]) recorded that certain factors of vertebropelvic origin, among which pregnancy, were capable of causing it.

In literature we have counted 17 cases of D.A.H. described in pregnancy ([1, 2, 4, 7, 8, 10, 12, 13, 14, 15]). Considering the rarity of this syndrome we consider it opportune to record a case which came under our observation.

CLINICAL CASE

P. Dorina, aged 28, entered hospital on 15/1/1979 (folder No. 639) at the beginning of the 40th week of pregnancy, because of painful symptomology in the hips. The patient reported that in the course of the 34th week of pregnancy a lumbarsciatology appeared. Later the pain became localised in the hips, more noticeable on the left, spreading to the internal surface of the thighs, becoming worse in walking and standing upright, but diminishing on resting in bed.

The painful symptomology proceeded slowly, becoming worse, to the point, in the last few days, of causing limping, with small steps, and requiring the support of a stick.

Analgesics were administered, derived from vitamin B complexes and rest in bed was prescribed.

The obstetrical examination revealed that the pregnancy was near term, with a single foetus in breech presentation.

At the objective examination the antalgic contraction of the groups of the medial muscles of the thighs was evident, and their manoeuver of external and abduction in rotation caused very marked increase of pain.

Routine examinations were normal, and calcemia, phosphoremia, calciuria, phosphaturia and

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rheumatic tests were all normal, with high ranges; but within the normal limits compatible with the condition of terminal pregnancy there were alkaline phosphatasy and urinary hydroproline in the ESV.

X-ray examination of the hips, undertaken with the opportune protective technique for the foetus, showed marked osteoporosis of the acetabulum and still more of the head of the femur, both on right and left sides, with a "knobby" appearance; the articular rima was preserved unchanged.

Having considered the various elements in the case, it was considered opportune to terminate the pregnancy with a caesarian section; a 2800 grm girl baby was born, with Apgar 9-10.

Subsequent completion of the X-ray enquiry on the skeleton showed no signs of tubercular disease in progress.

After delivery antalgic treatment was carried out and physio-kinesitherapy was initiated.

The patient was discharged on the 20th post-operative day, with her condition much improved; the complete functional recovery of the coxo-femoral articulation occurred after about four months.

The radiographical picture showed normalisation after about a year and a half.

DISCUSSION

The decalcifying algodystrophy of the hip, classified among the secondary and localised osteoporoses, is a syndrome that has not found a unanimous denomination in literature. In relation to its pathogenesis Authors define it as transitory osteoporosis of the hip ([7]), or reflex algodystrophy of the hip ([2, 3, 9]). The pathogenesis not yet being clear, we referred to Lequesne ([9]) who was the first to define the syndrome, and to Dini and Fausone ([6]) who were the first to characterise it in Italy.

Revision of the literature allows for the analysis of only 17 cases similar to ours, thus underlining the rarity of D.A.H. in pregnancy; the rarity being confirmed also by the study of Curtiss and Kincaid ([4]) who, retrospectively examining a hundred pelvimetric X-rays of pregnant women found no evidence of decalcification of the hip.

The analysis of the cases observed shows that the age and parity of the patients affected show a wide variability.

The period of the onset of the symptomology is late, after the 4th month of pregnancy, generally in the third term; three cases ([13, 14]) were described in the post-partum period.

The syndrome manifests itself more frequently on the left (13:18), but also only on the right (3:18) and bilaterally (7:18). Other articulation of the lower limbs may also be involved (7:18).

Cayla ([2]) reported other types of decalcifying reflex algo-dystrophies in pregnancy, affecting only the articulation of the foot and the knee (4 cases).

The principal symptom is the pain which begins furtively and insidiously having more or less the character of lumbar sciatica which moves into the hip; it is of the mechanical type, ceasing with rest and increasing with deambulation; it progress up to the point of causing limping ([6, 8, 15]).

Characteristically, the hip maintains a good deal of its mobility ([6]).

The radiographic enquiry, which is very important in diagnosis, must obviously be carried out with all the necessary precautions to be observed in conditions of pregnancy.

A marked demineralisation of the head of the femur and of the acetabulus is noticeable, first with a knobby appearance, then total to the point of destroying the outline of the profile of the femur. The articular rima remains unaltered ([6, 7, 12]).

Laboratory examinations do not present significant characteristics, also because the values of leucocites, ESV, urinary hydroxiproline ([16]) and alkaline phosphates do increase in normal pregnancy, sometimes quite notably.

The disease poses problems of differential diagnoses with osteoporosis of endocrine etiology, with osteomalacia, with neoplastic lises, primitive or secondary, with t.b. of the hip, and with phlogoses of infective or rheumatic origin.

Segmentary osteporoses with knobby appearance, the preservation of the articular rima, the absence of signs of any centre and of other pathological elements, in addition to an adequate nutritional condition allow us to exclude osteomalacy; the absence of marked leucocitoses, of temperature, of a positive anamnesis for infections, the negative results of tests for rheumatism and tubercolosis remove the hypotheses of specific or aspecific infective coxitis or of a rheumatic coxitis; the normality of the calcemia, phosphoremia, calciuria and phosphaturia exclude condition of hyperparathyroidism.

Certainly a suspicion remains of a neoplastic lisis, though this would have caused a significant increase, even in pregnancy, of the ESV and of alkaline phosphasis, which, on the contrary, is not characteristic of the fertile period.

D.A.H. in pregnancy may represent maternal indications towards a Caesarian delivery, which was undertaken in three cases, both because of the intensity of pain and for the limitation of the abduction of the thighs.

This syndrome has shown in all cases a benign evolution leading to recovery, independently of the therapeutic measure adopted, and in periods varying from a few weeks to about six months from delivery.

The normalisation of the radiographic picture follows the regression of the clinical symptomology.

In the pluripara, preceeding or successive pregnancies have not been complicated by D.A.H.

Considering the relatively large number of D.A.H. cases in pregnant women in relation to the total number of cases described ([3]), and of the spontaneous regression of the disease after delivery, it may be held that pregnancy plays a predominant part in the determination of this syndrome, presumably through localised mechanisms; the pathogenesis, however, remains substantially unknown. Curtiss ([4]), advanced the hypothesis, later contradicted experimentally, of a compression of the otturatory nerve by the foetal head.

Longstreth ([10]), Rosen ([12]), Hunder ([7]) suggested a mechanism of venal compression. This is favoured by the increase in the number of red cells in the medulla of the head of the femur; this, however, was observed in cases of D.A.H. outside pregnancy.

Cayla ([2]) gives a certain importance to a probable irritation of the sympathetic pelvic nerve on the part of the pregnant uterus.

The cure of D.A.H. lies above all in rest, physiokinesitehrapy and analgesics.

CONCLUSION

D.A.H. in pregnancy is a syndrome well-characterised by a type of pain, and by its benign course; it is not of frequent occurrence because probably little is known about it. In fact certain crural-pelvic pains arising in the second half of pregnancy, with spontaneous regression after delivery, not explored radiologically, might correspond to exhausted forms of D.A.H.

BIBLIOGRAPHY

1) Beaulieu J. R., Razzano C. D., Levine R. B.: *Clin. Orthop., 115*, 165, 1976.
2) Cayla J.: *Rev. Rhum., 45*, 89, 1978.
3) Cayla J.: *Algodystrophies réflexes des membres inférieurs d'origine vertébro-pelvienne.* In: F. Coste, *Progrés en rhumatologie*, Flammarion, Paris, pp. 597-624, 1968.
4) Curtiss P. H., Kincaid W. E.: *J. Bone Joint Surg., 41*, 1327, 1959.
5) De Marchi E., Santacroce A., Solarino G. B.: *Arch. Putti, 21*, 62, 1965.
6) Dini P., Fausone F.: *Arch. Putti, 26*, 101, 1971.
7) Hunder G. G., Kelly P. J.: *Ann. Int. Med., 68*, 539, 1968.
8) Iovieno R., Perazzo V., Pinto R., Polito P. M.: *Giorn. It. Ost. Gin., 4*, 459, 1982.
9) Lequesne M.: *Rev. Rhum., 35*, 183, 1968.

10) Longstreth P. L., Malinak L. R., Hill C. S.: *Obst. Gyn., 41,* 563, 1973.
11) Pantazupoulos T., Exarchou E.: *J. Bone Joint Surg., 55 A,* 315, 1973.
12) Rosen R. A.: *Radiology, 94,* 509, 1970.
13) Serre H., Simon L., Claustre J., Sany J.: *Rhumatologie, 25,* 5, 1973.
14) Valenzuela F., Aris H., Jacobelli S.: *J. Rheum., 4,* 59, 1977.
15) Vinceneux Ph., Stevens-Dudragne D., Peckels B., Kaplan G.: *Sem. Hôp. Paris, 55,* 1701, 1979.
16) Klein L., Yen S. C.: *Metabolism, 19,* 19, 1970.