CO-ARCTION OF AORTA WITH PREGNANCY

(A Case Report)

by

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Introduction

Co-arctation of aorta is a clinical condiction in which narrowing of aorta occurs in the region where the ductus arteriousus joins the aorta i.e. just below the origin of the left subclavian artery.

Since the condition is rare in women, few cases with pregnancy have been reported. Although longevity is said to be remarkably reduced, corrective surgery has improved the expectancy of life.

Goodwin (1961) has pointed out that the principal risks to life in a patient with co-arctation are rupture of the aorta, aneurysm formation and infection of the co-arctation. However, these hazards are not increased by pregnancy and these patients can safely be allowed to go to term and deliver vaginally.

Dixon and Hartley (1955) observed that in some patients with co-arctation of the aorta a fall in blood pressure comparable with that seen in some patients with essential hypertension occurred during pregnancy.

We came across a young girl suffering from this rare condition who had 2 pregnancies under our care.

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Accepted for publication on 9-10-79.

CASE REPORT

A 20 year old primigravida came for antenatal check up on 14th May, 1975 with a history of 20 weeks' amenorrhoea. Her last menstrual period was on 9th of January, 1975. She did not have any sgnificant complains nor any relevant past history.

On examination her pulse rate was 78 per minute but the blood pressure was 170/116 mm. of Hg. On examination of the heart a rough systolic murmur was heard, urine analysis showed no albumin or pus cells. On account of her high blood pressure and systolic murmur she was advised to consult a physician. A diagnosis of co-arctation of the aorta was made. The following physical findings were noted. Patient was normal in built with no anaemia or cyanosis or lymphadenopathy. Carotid, brachial and radial pulses were felt. Femoral and dorsalispedis were feeble. The pulse was 84/ minute and regular, blood pressure in lower limbs could not be recorded, the blood pressure in both upper limbs was 160/110 mm. of Hg., J.V.P. was not elevated. Apical impulse was heaving, situated in the fourth left intercostal space, half an inch lateral to the midclavicular line. Systolic thrill was felt over the apex and pulmonary area. Both sounds were normally heard. P2 was normal. Mobile, blowing systolic murmur was heard over the apex and short systolic murmur was heard over the back. Lungs were normal, liver was not palpable. A bruit was heard in the abdomen but not over the renal angles. Detailed investiga-

tions were carried out at Vellore showed following reports.
Hb 14 gms%
T.C.WBC 6900 cumm
ESR 45 mm/1st hr.
PCV 40%
N 43, L 46, E 7, M 4, B nil
Blood urea 14 gm%
PTT 15.5 second
Urine Albumin Nil
Sugar Nil
Total protein 6.2 gms
Albumin 4.05 gm.

Xray P.A. and lateral views showed cardiomegaly with left ventricular configuration.
CTR 14.1/23.2 cm.

Ascending aorta was slightly prominent, lung fields appeared to be normal. No definite collaterals made out. ECR R/Sin V/6 30/0.

IMPRESSION

Left ventricular hypertrophy

Cardiac catheterization: There was marked peripheral arterial narrowing.

The aorta could not be entered because of extensive narrowing of vessels in the brachiocephalic region in spite of high arterial pressure. It was interpreted as arterial narrowing due to an acquired form of arteritis. Final diagnosis was made as Diffused Arteritis acquired co-arctation.

Patient regularly attended the private clinic for antenatal check up; on the 9th of August, 1975, breech presentation was detected, Xray abdomen and pelvis showed breech presentation with extended legs. No attempt at version was made on account of her high blood pressure and diseased heart.

Elective C.S. was planned, L.S.C.S. was done under gas and oxygen anasthesia. Alive female child was delivered on 9th of October, 1975.

Postoperative period was uneventful. She continued the treatment as suggested by the physician. After that she was regularly under the care of a cardiologist.

While the patient was planning to undergo corrective surgery she conceived second time within a year and reported to us with 16 weeks pregnancy. Her last period was 27th August, 1976 and expected date was on 3rd June, 1976. The physician advised her termination. Against the advice of the physician she continued this pregnancy and regularly attended the antenatal clinic. Throughout the pregnancy she was on the following drugs.

Esbatal 25 mg. 8 hourly
Arkamin 1 tab twice daily
Lasix 40 mg. bi-weekly
Campose 1 tab. TDS.

Inspite of the above treatment, blood pressure continued to rise, so elective C.S. along with sterilization was done at 37 weeks of pregnancy.

Comments

Exact incidence of co-arctation with pregnancy is difficult to assess and it varies from place to place (Pritchard 1953). Different authors have given their own figures like (Burkhardt and Mule 1963) 2 Cases in 1,20,000, Bedi and Kochar 1971 found the incidence as 1 in 12,000. We were not able to work out the actual incidence in our hospital.

Pregnancy does not seem to alter the course of the disease. The blood pressure may rise or remain high as in a non-pregnant case or in a case of essential hypertension with pregnancy. In our case the blood pressure showed a constant rise during pregnancy and showed no response to hypertensive drugs. Bedi and Kochar (1971) reported a fall during second and third trimesters in their second case while blood pressure remained high throughout the pregnancy in their first case. The effect of co-arctation on pregnancy is still debated and is highly controversial. However, it does not seem to have any deleterious effect on pregnancy.

There has been a gradual change in the management of pregnancy complicated by co-arctation of the aorta. In 1940 Mendelson advised termination for patients seen early and caesarean section for those seen later in pregnancy. In 1949 Benham while believing that there was justification for terminating the pregnancy early advised caesarean section for delivery because of the risk of rupture of cerebral blood vessels during labour. However,

Pritchard (1953) found no contra-indication to vaginal delivery.

In our case indication for caesarean section in the first pregnancy was breech with extended legs and in the second pregnancy uncontrolled blood pressure and presence of previous scar on the uterus.

Because most women with co-arctation safely undergo pregnancy and deliver successfully there seems to be no urgent indication for corrective surgery in early pregnancy which can safely be deferred till after delivery.

Corrective surgery, i.e. excision of the co-arctation and end to end anostomosis improves expectancy of life and the aim should be to choose suitable time for the same.

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