

## ***16) Development of the bones and synovial joints in the rat model of the VATER association***

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### **Abstract**

The adriamycin-induced rat model of the Vertebral, Anorectal. Tracheo-Esophageal. Radial and Renal (VATER) association produces a variety of vertebral, rib, and limb abnormalities. This study was designed to document accurately the nature of these abnormalities and to determine whether synovial joints are affected. Fetuses from pregnant Sprague Dawley rats that had received intraperitoneal injections of 1.75 mg/kg of Adriamycin on days 6-9 or 10-13 of gestation were harvested. Double-stained skeletal preparation and histological sections were examined for vertebral, rib, and limb anomalies. The incidence of abnormalities was high in the group treated on gestational days (GD) 6-9, while it was low in the GD 10-13 group. The length and thickness of the long bones were reduced, with bowing and reduction in their endochondral ossification. Sirenomelia occurred in the group treated on GD 6-9, and was often associated with a short tail and anal atresia. The joint cavities and intra-articular structures such as menisci and the cruciate ligaments developed normally from the mesenchymal interzone. These data indicate that Adriamycin inhibits skeletal growth and differentiation without any interference in the differentiation of the mesenchymal interzone, thus producing normal synovial joints.

**Key words:** Adriamycin, Rat, Embryo, VATER association, Synovial, Bones, Limbs, Vertebra, Sirenomelia.

## ***17) Prenatal Diagnosis for Congenital Anomalies In Arabic & Islamic Countries***

**Presenter: Dr.Hisham El-nana OBGYN Consultant, Nablus**

### **Abstract**

**Background:** 15% of newborn babies have a single minor malformation. Major congenital malformations constitute 10% of miscarriages 3% of all deliveries, < 2% of live births& about 30% of all stillbirths, neonatal deaths and infant deaths. Perinatal mortality is around 2.5/ 1000.

### ***Diagnostic Techniques***

1) Ultrasonography: the main diagnostic technique by direct visualization, detection chromosomal markers& direction of instruments.

2) Chorionic villus biopsy ( C V ): obtains fetal tissues from chorion under U/S guidance between 8-12 weeks.

3) Amniocentesis: at 15- 18 weeks. Early amniocentesis 12wks.

4) Fetal blood sampling ( cordocentesis), done late in pregnancy.

5) Embryo biopsy.

6) Preimplantation diagnosis.

### ***Aims of diagnostic techniques:***

1) Identification of disease.

2) termination of pregnancy ( TOP).

### ***Islamic law & TOP***

1) in early pregnancy.

2) after 4 months.

### ***Recommendation:***

1) Early diagnosis.

2) No need for prenatal diagnosis.

3) Establishment of genetic labs.

