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Case Report

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Congenital Goiter with Hypothyroidism in Neonate: A Case Report

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Summary: Congenital hypothyroidism is inadequate thyroid hormone production in newborn infants. This can occur because of an anatomic defect in the gland, an inborn error of thyroid metabolism, or iodine deficiency. This report presents an extremely rare case of Goiter in A male neonate, born at 39 weeks' gestation presented with a goiter without other signs of hypothyroidism [1-6].

Congenital Goiter is not a common finding in the newborn infant, but because of the immediate danger to the infant of suffocation, it represents a challenging problem to the pediatrician and the surgeon. Because of the possible complication of thyrotoxicosis, the endocrinologist must be called in to evaluate the functional status of the gland. The most common type of goiter in the newborn occurs in iodine-deficient areas. This so-called congenital endemic goiter. Congenital goiter caused by other factors is occasionally encountered in the newborn and is known as sporadic congenital goiter [1-4,7].

Case Report

A male neonate, born at 39 weeks' gestation, presented with a goiter without other signs of hypothyroidism. a 3-days -old white male, was admitted to the Mofid Hospital, weighing 2530 gr. At birth, it was noted that he had a soft tissue mass in the neck.

The mother was 26 years old with out any history of using drug and had normal physical examination and normal thyroid function test. Her one other child is in good health and did not have a similar difficulty in the newborn period (Figure 1).

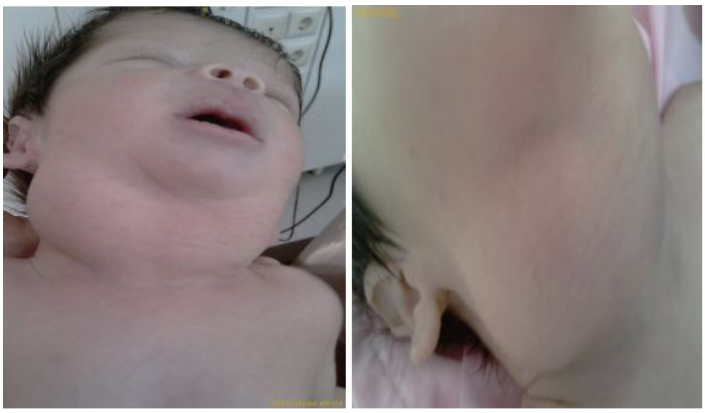

Figure 1: New Born.

On admission, the child was active and in no distress. Pulse was 120, respirations 24 and temperature 37ºC. Fancies was quite unremarkable. His neck was supple and a mass could be seen in the thyroid area, which was soft and not tender the left size was 3×2.5 cm and the right size was 5×3.5 cm. No bruit was heard over the mass. Remainder of the physical examination was negative. Measurements were: height 51 cm, head circumference 35 inches, neck circumference 24 cm, and ratio of upper segment to lower segment 1.38. Laboratory finding showed a leukocyte count of 14900/mm3, with differentials of 77 % neutrophils, 20% lymphocytes. The hemoglobin level and platelet count were normal. TSH was 295 mlu/L (1.1-17) T4 was 1.4 micro gram /dl (9.9-16.6), and F T4 was 0.216 ng/Dl (0.8-1.7). Serum electrolytes, creatinine, albumin, total bilirubin, protein, and osmolality levels were normal.

The chest radiograph was normal. The echo cardiograph and abdominal sonography were normal. The ultrasound of the neck revealed a huge hyper vascular solid mass in neck region in site of thyroid gland that due to hypertrophic thyroid gland (85×73 mm). Technetium thyroid scan reveals; huge enlargement of the thyroid gland with non-homogeneous up take (Imp was multinodular goiter with multiple type of nodular function) (Figure 2). Oral thyroxine treatment was initiated when the infant was 3 days old and continued for 3 weeks. Treatment was effective in reducing the goiter and hormone concentrations.

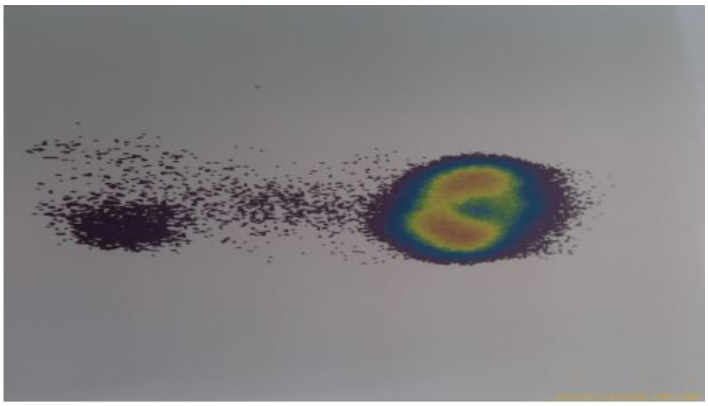

Figure 2: Technetium Thyroid Scan.

Discussion

Congenital Goiter has been observed "In infants born of normal mothers, of those with suspected hyperthyroidism or hypothyroidism, or those who received thiouracil derivatives or iodine's, and of those who did not receive any known goitrogens" [1]. The present case fits well in the category who did not receive any known goitrogens. It has been shown that the human fetal thyroid begins to function at 14 weeks of gestation [2]. On the other hand, thyroxine or triiodothyronine, which are carried in the circulation as a protein complex, do not cross the placenta freely [8,9].

The fetal pituitary presumably secretes excessive amounts of Thyrotrophic Hormone (T.S.H.), which causes a compensatory hyperplasia of the fetal gland. In most instances, this prevents the appearance of signs of hypothyroidism in the newborn [4].

The association between upper gastrointestinal tract obstruction and hydramnios is well known [10]. Congenital goiter not only obstructs the trachea, but at times encircles the esophagus and may cause obstruction. Hydramnios has been reported in five instances of congenital goiter [11]. In most instances treatment is symptomatic, as in the case presented above. Maintenance of an adequate airway is the first goal. If hyperextension of the neck does not improve the respiratory picture, the child should have a partial, but adequate, resection of the thyroid isthmus [1] to relieve the obstruction. Tracheotomy has been ineffective in treating the obstruction [5,6,12-16]. Congenital Goiter with Hypothyroidism in neonate is rare but should be suspected in a neonate with neck mass.

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