Test Thyroid Function in Thrombocytopenia

BY PATRICE WENDLING
Chicago Bureau

CHICAGO — Immunologic thrombocytopenia was associated with an increased prevalence of thyroid disease in a retrospective longitudinal study.

The finding argues for routine screening for thyroid disease in patients with immunologic thrombocytopenia. The study also indicated that treating the thyroid disease did not influence the long-term course of the thrombocytopenia, Dr. Adriana Ioachimescu and her colleagues at the Cleveland Clinic Foundation reported in a poster at the annual meeting of the American Association of Clinical Endocrinologists.

American Society of Hematology guidelines on immunologic thrombocytopenia, last updated in 1996, state that thyroid function evaluation has "uncertain appropriateness" in adults with immunologic thrombocytopenia. Testing is considered appropriate only before elective splenectomy to rule out occult hyper- or hypothyroidism.

Thyroid function tests, available in 80 of 98 patients consecutively diagnosed with immunologic thrombocytopenia by a single provider between 1988 and 2005, indicated 20% had thyroid disease. Ten were hypothyroid and six were hyperthyroid. Patient ages ranged from 21 to 75 years, and the average follow-up was 131 months. The onset of the two conditions was simultaneous in 4 of the 16 cases.

Treating the thyroid disease did not influence the long-term course of the thrombocytopenia.

DR. IOACHIMESCU

The study represents the largest cohort and longest follow-up of patients with both conditions, Dr. Ioachimescu said in an interview. Only three studies evaluating the association between the two disorders have been published since 1931. Based on these studies, the estimated prevalence of thyroid disease in patients with immunologic thrombocytopenia would be 5%-14%, she said. The prevalence of hyper- or hypothyroidism is about 5%-6% in the general population.

In Dr. Ioachimescu's study, all patients with hypothyroidism received thyroid supplementation and eventually reached a normal level of thyroid-stimulating hormone. Five of the six patients with hyperthyroidism became hypothyroid after radioactive iodine treatment, and needed thyroid hormone supplementation. The sixth patient with hyperthyroidism remained euthyroid after methimazole therapy.

Of the 16 patients with thyroid disease, 14 required treatment for their thrombocytopenia; medical therapy was provided in 13, and splenectomy was performed in 6.

Previous case reports of patients with both disorders have shown significant increases in platelet count after thyroid treatment. In the current study, platelet counts transiently increased in three patients after normal thyroid function was restored. No changes were seen in the other 13 patients. The discrepancy between findings could be due to publication bias, as case reports and case series tend to present positive findings, or because prior reported cases were associated with more severe hyperthyroidism, which affected platelet counts, she said.

Further studies are needed to determine if thyroid autoantibodies have a direct impact on the platelet count or whether they simply represent a marker of the autoimmune thyroid disease, Dr. Ioachimescu reported. ■

Maternal Thyroid Disease Possible Risk Factor for Craniosynostosis

BY DOUG BRUNK
San Diego Bureau

TUCSON, ARIZ. — Maternal thyroid disease or its treatment may increase the risk of craniosynostosis in offspring by nearly threefold, preliminary results from an ongoing study suggest.

The finding is important because thyroid disease is the second most common endocrinopathy, after diabetes, in women of reproductive age, Dr. Sonja A. Rasmussen said at the annual meeting of the Teratology Society.

"Several case reports in the medical literature have linked craniosynostosis to postnatal hyperthyroidism and with maternal Graves' disease during pregnancy," said Dr. Rasmussen of the division of birth defects at the Centers for Disease Control and Prevention, Atlanta.

Thyroid hormone is known to play a key role in normal bone metabolism, acting on both osteoblasts and osteoclasts.

DR. RASMUSSEN

"Congenital hypothyroidism is associated with delayed closure of the fontanelles. In addition, thyroid hormone is known to play a key role in normal bone metabolism, acting on both osteoblasts and osteoclasts. This information suggests that excess thyroid hormone might lead to premature cranial suture fusion," she said.

To examine the relationship between maternal thyroid disease and craniosynostosis, Dr. Rasmussen and her associates used data from the National Birth Defects Prevention Study, an ongoing population-based case-control study of major birth defects. The data included maternal interviews and clinical information on 4,555 infants born between Oct. 1, 1997, and Dec. 31, 2002, in Arkansas, California, Georgia, Iowa, Massachusetts, New Jersey, New York, and Texas.

Maternal interviews were completed 6-24 months after estimated date of delivery. Infants born with a condition of known etiology, such as a chromosome abnormality or single gene condition, were excluded from the study.

Of the 4,555 infants, 433 had craniosynostosis verified by radiographic imaging and 4,122 live-born infants without major birth defects served as the control group.

Of the mothers of infants with craniosynostosis, 19 (4.4%) had maternal thyroid disease, compared with 67 (1.6%) of mothers in the control group. Odds ratio analysis revealed that mothers with thyroid disease were 2.8 times more likely to have an infant with craniosynostosis, compared with mothers in the control group.

The association remained the same from a statistical standpoint after the researchers adjusted for several potential confounding factors, including maternal age, education, race, smoking status, use of selective serotonin reuptake inhibitors, body mass index, and preexisting diabetes; infant sex, birth weight, and gestational age; and family history of craniosynostosis.

Odd ratios were increased for all types of craniosynostosis except for metopic. The highest odds ratio was for multiple sutures.

"There are several possible mechanisms for the findings we observed," said Dr. Rasmussen. First, "mothers with hyperthyroidism may have received inadequate treatment, with passage of excess thyroid hormone across the placenta. Another possible mechanism is that a mother with hypothyroidism received overtreatment with exogenous thyroid hormone. Finally, the mother might have autoimmune thyroid disease that results in production of thyroid-stimulating antibodies that cross the placenta and stimulate the fetal thyroid to make excess thyroid hormone."

Maternal thyroid disease was based on self-report, "so only limited information on the type of thyroid disease was available." Dr. Rasmussen also noted that work-ups for genetic causes of craniosynostosis differed among the study sites. Some infants with genetic etiology might have been included. ■

IV Ibandronate Rivals Oral Drug on BMD Improvement

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

BOSTON — Intermittent intravenous ibandronate is at least as effective as daily oral ibandronate for increasing bone mineral density and may be preferable to oral dosing in patients with esophageal disease or compliance problems.

There are no fracture data for the intravenous dosing schedule, but the risk reduction that has been shown with oral ibandronate can probably be extrapolated to the intravenous form of the drug, Dr. Mone Zaidi said at the annual meeting of the Endocrine Society.

Study results have shown that oral ibandronate reduces the risk of new vertebral fractures by up to 60% (Curr. Med. Res. Opin. 2005;21:391-401; J. Bone Miner. Res. 2004;19:1241-9).

"If you can show equivalence or superiority in bone mineral density changes to [the form] with proven fracture data, which we have done, I think everyone would agree that you can extrapolate that data," said Dr. Zaidi, director of the Mount Sinai Bone Program, Mount Sinai School of Medicine, New York.

Dr. Zaidi presented 2-year bone mineral density (BMD) data from the ibandronate Dosing Intravenous Administration trial, a Roche-sponsored phase III study that compared two doses of intravenous ibandronate (2 mg every 2 months and 3 mg every 3 months) with the approved oral dosing schedule (2.5 mg daily). The study group included 1,400 postmenopausal women with low bone mass (T scores of –3.3 for total spine and –2 for hip).

After 2 years, BMD at the lumbar spine increased significantly more in both intravenous groups than in the oral group (mean increase 6.4% for the 2-mg IV dose, 6.3% for the 3-mg IV dose, and 4.8% for the oral dose). BMD increased similarly at all other sites measured, with consistently greater gains in both intravenous groups than in the oral group, Dr. Zaidi said.

At 2 years, the incidence of adverse events was similar across all groups. Flulike illnesses and gastrointestinal intolerance were seen primarily in the first year, with only slight increases in cumulative numbers during the second year. There was no osteonecrosis of the jaw. Renal and urinary incidents were uncommon and similar across groups.

Fracture incidence was low and similar in all groups, although Dr. Zaidi stressed that the study was not powered to prove fracture risk reduction.

Intravenous ibandronate would be especially useful in patients with contraindications to oral therapy or evidence of noncompliance, Dr Zaidi said. "Use this in patients who are intolerant to the oral form or who have problems like a bleeding ulcer, stricture, or dysmotility. It would also be useful for those who can't sit upright, such as bedridden nursing home patients." ■

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