about the rest of their pregnancy. Apart from having obvious benefits for the well-being of the baby, diagnosing the mother would also enable her to make decisions about her own long-term treatment as well has reviewing her behavior so as to limit the risk to others.

An important point is that routine testing should remain voluntary to maintain a woman's autonomy in the decision making process. Otherwise, compulsory testing may actually drive some women away from prenatal care altogether.[5] Compliance with medical care is likely to be greatest when the woman believes that she has made an informed decision regarding HIV testing, and has a relationship of respect and trust with her health care provider.[8] This raises the issue of adequate counseling before testing is offered. Even if HIV testing becomes one of the routine antenatal blood tests, this should not diminish the importance of giving accurate information and asking specifically for consent.

The addition of routine HIV counseling and screening to antenatal care will have great resource implications on the New Zealand health system. Before a screening program such as this is begun, one has to ascertain that the health care system is capable of supporting all the necessary elements of the screening pathway, including the diagnosis, follow-up and program evaluation and monitoring.[5] This means that a national policy has to be put in place, which will mean equitable treatment of the whole population. Such policy development and implementation would require a considerable amount of funding from the government. Areas that would require particular attention are: staff training, facility improvement, application of monitoring and quality assurance systems. It is important to educate and train staff sensitively and in a culturally-appropriate manner to be able to deliver information in the form of pre- and post-test counseling. This is especially important for the Maori population so that their needs are met adequately as well. Printed material that suitably targets various ethnic groups would be of considerable benefit in improving community awareness and test acceptability.

Since the cost of this new screening strategy would be significant, one has to wonder about its cost effectiveness. An analysis carried out in England showed that in areas of high prevalence, routine antenatal screening was indeed cost-effective, becoming less so in areas of lower prevalence.[9] Therefore, in low prevalence populations such as New Zealand, even with a very high uptake, the absolute impact is bound to be limited.[4] This has been a major argument against implementing the new screening policy, as one needs to ask whether it would be the best expenditure of scare health dollars.

Some also argue that the addition of HIV into routine antenatal screening would further add to the medicalisation of pregnancy and a shift of focus from mother to baby.[4] However, this can be reduced by a good explanation of the risks of HIV infection as well as the benefits of screening and early treatment, for both the mother and the baby. Women will most likely be more willing to participate in screening when they are fully informed. Unfortunately, this process is likely to further add to the time-pressure of consultations. One of the important issues is that women will have to be informed about the possibility of a false-positive result. Under the current protocol of testing, one in every thousand uninfected woman would require retesting a month after the initial screen before they could be reassured that they were not infected.[4] This would result in unnecessary anxiety for affected women, during a time that is frequently challenging already. Another source of possible anxiety is whether results will be kept confidential. Patient confidentiality must be maintained as strictly as possible. However, health care providers also have to be aware of specialists to whom infected patients can be referred for further counseling and management.

There are many arguments for and against the routine HIV screening of pregnant women. The main ones against the adoption of the new screening policy are that it will require a substantial amount of scarce health care resources will further medicalise pregnancy and may cause significant anxiety among women who test false positive. On the other hand, there are also many reasons why the new strategy should be put into practice. There is a slowly increasing number of heterosexually infected individuals in the community and this is bound to have an impact on the number of perinatal infections. A voluntary routine screening program, which tries to normalize testing and remove stigmatization, would thus probably be more likely to pick up a greater proportion of HIV infected pregnant women than one based solely on risk assessment. Such routine screening would also hopefully increase public awareness of the issues and augment the safe sex message. In conclusion, to make a well-informed decision about the prospect of altering antenatal screening policy, the government will have to weigh up the cost and benefits of such a policy change.

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CASE REPORT

A case of Grave's disease and thymic hyperplasia

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A 43 year-old woman presented with a six week history of weight loss, tremor, eye irritation and diarrhoea. A diagnosis of Grave's disease was made based on positive thyroid antibodies and diffuse uptake of tracer on a thyroid scintiscan [figure 1]. Her past history included branchio-oto-renal (BOR) syndrome and a repaired patent ductus arteriosus aged 7. On clinical examination she had a small diffuse goitre. She was commenced on carbimazole and atenolol. Three months later she complained of dysphagia and dysphonia. Her goitre remained unchanged to clinical examination and was thought unlikely to be causing compressive symptoms.

A contrast-enhanced CT scan of the neck and mediastinum was performed [figure 2]. There was posterior projection of the left and right lobes of the thyroid gland but no clear evidence of oesophageal compression. Incidentally, an anterior mediastinal mass was found, separate from the posterior pole of the thyroid and measured 6x2cm transversely and 3cm in length (Figure 1; **x**). Tumour markers for -fetoprotein, -hCG and CA-125 were negative. She was referred for thoracoscopic biopsy of the mediastinal mass. At surgery, an enlarged thymus gland was identified. Histology of the tissue biopsy revealed prominent lymphoid follicles consistent with thymic hyperplasia.

Despite there being several reported cases of Grave's disease and thymic hyperplasia in the literature[1,2,4], this association is often not recognised. Although the pathophysiology of this association is unknown, two hypotheses have been proposed. One proposes that abnormal T-cell recognition is present, similar to that seen in myasthenia gravis. However, this is not supported by that fact that thymectomy does not result in an improvement in hyperthyroidism.[1] The other hypothesis proposes that there is autoimmune stimulation of thymic hyperplasia similar to that seen in pre-tibial myxoedema and Grave's ophthalmopathy. IgG activity against thymocytes has been identified in a patient with Grave's disease and thymic hyperplasia.[2] In support of this theory, thymus size and density have been observed to regress significantly when thyroid hormones and antibodies return to normal levels after successful treatment of Grave's disease.[3] In addition, thyrotoxicosis itself may also stimulate thymic growth. Thyroid hormones have also been shown to increase thymulin, a thymic nonapeptide essential for T-lymphocyte differentiation and function.[4] However, there were no reports of thymic hyperplasia in other forms of hyperthyroidism.

To our knowledge, no association between BOR syndrome, Grave's disease and thymic hyperplasia has previously been reported. BOR syndrome is an autosomal dominant disorder caused by mutation in the human eye absent (EYA)1 gene. EYA1 is involved in the morphogenesis of organs derived from the pharyngeal regions including the thymus, thyroid and parathyroid glands. Inactivation of EYA1 in experimental animals resulted in hypoplasia of the above organs.[5] It is therefore unlikely that BOR syndrome would result in thymic hyperplasia.

In patients with Grave's disease found to have an anterior mediastinal mass, thymic hyperplasia should be considered. Surgery and biopsy may be avoided if the mass is shown to regress in follow-up CT scans. Where uncertainty exists, thoracoscopic biopsy should be undertaken to determine the nature of the mass. In the context of this patient, BOR syndrome is likely a separate and unrelated disorder.

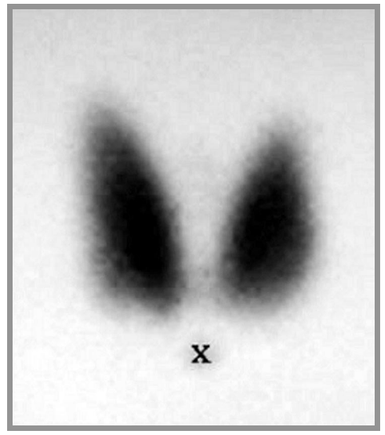

Figure 1.
Thyroid scintiscan, indicating hyperthyroidism associated with Graves disease. Note the anterior mediastinum mass (x).

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GRAVE'S DISEASE

- is named after Irish physician Robert Grave (1796-1853)
- is the most common cause of hyperthyroidism
- is caused by autoantibodies and over-stimulation of the thyroid gland
- is 10 times more common in females
- may be associated with other autoimmune conditions, *e.g.* Type 1 diabetes mellitus, pernicious anaemia and vitiligo
- symptoms of hyperthyroidism include weight loss, increased appetite, heat intolerance, diarrhoea, oligomenorrhoea and irritability
- lid lag can occur in any form of hyperthyroidism, but exophthalmos (protrusion of the eyeballs) is exclusive to Grave's Disease
- investigations: thyroid function test (TFT), thyroid antibodies and thyroid scintiscan (uniform uptake of radioactive iodine, in contrast to a toxic nodule)
- treatment: carbimazole is the most commonly used drug treatment for hyperthyroidism. Some patients may require beta-blockers or radioactive iodine or surgery

Source: Harrison's Principles of Internal Medicine. 16th edition. McGraw-Hill

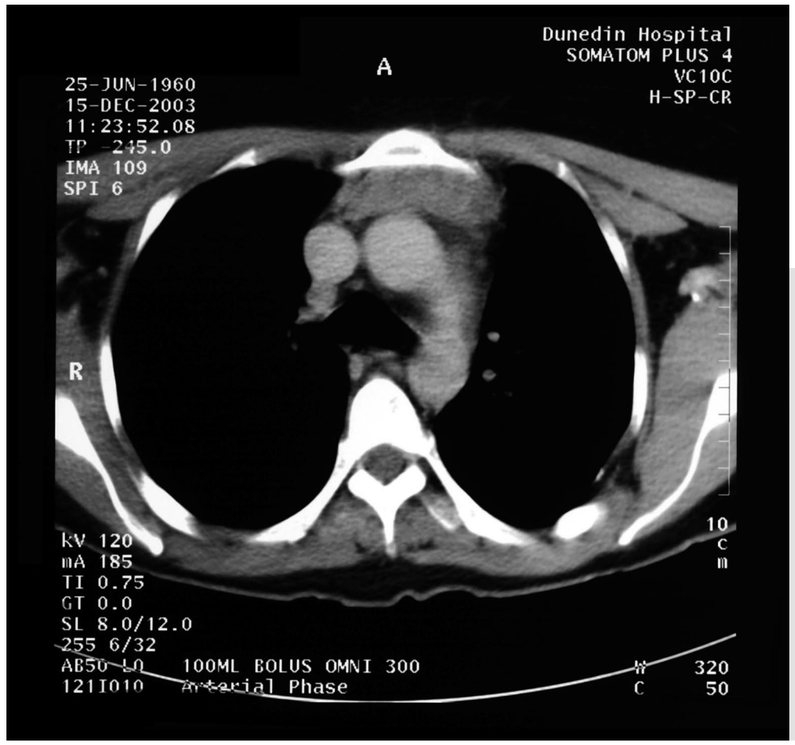

Figure 2.
Contrast-enhanced CT scan of neck and mediastinum indicating hyperthyroidism.

ARTICLE

Talar neck fractures: results and outcomes

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ABSTRACT

Although talar neck fractures are uncommon, they have been associated with high complication rates which can result in permanent disability. The aim of this study was to see whether the type of talar fracture affected the treatment and functional outcome. A retrospective review of 41 patients at Dunedin Hospital with fractured tali was completed. This identified 16 fractures of the neck of the talus (using Hawkins classification) which was a major part of the study. Complications and secondary procedures were reviewed, and radiographic evidence of osteonecrosis and posttraumatic arthritis was evaluated. Although the results showed an association between the type of fracture and the functional outcome, the results were largely inconclusive due to a small sample size and other pitfalls in study design.

INTRODUCTION

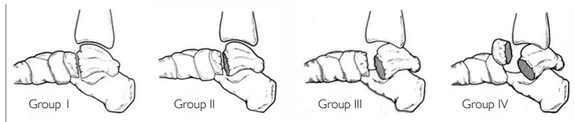
The talus forms the ankle joint with the tibia, the subtalar joint with the calcaneus and the midtarsal joint with the navicular bone. Talar fractures are grouped into head, neck, body, lateral and posterior process fractures (Figure 1). The talus has no musculotendinous attachment and 60% of its surface is covered by cartilage, which considerably limits its circulation[2]. This explains the high incidence of avascular necrosis (AVN) following fracture neck of talus.

The Hawkins classification system categorizes talus fractures into groups based on radiographic evidence. This system can be used to predict the outcome and treatment of the fracture (type 1 fractures have the best outcome and type 4 have the worst). The system is described below.

type 1:	undisplaced fracture
type 2:	displaced fracture with dislocated subtalar joint
type 3:	displaced with dislocation of the body of the talus form both the subtalar and ankle joints
type 4:	displaced with dislocation of the body of the talus form both the subtalar and ankle joints as well as dislocation of the talar head

The degree of displacement in talar neck fractures [as suggested by Hawkins classification] is directly proportional to the rate of avascular necrosis[3].

The recommended treatment for fractured neck of the talus[4]: cast treatment for Group I; closed reduction and screw fixation for Group 2; and open reduction and fixation for Group 3 and 4.



^ **Figure 1: The Hawkins classification system**
Group 1: undisplaced; group 2: displaced with dislocated subtalar joint; group 3: displaced with dislocation form both the subtalar and ankle joints; group 4: type 3, with dislocation of the talar head.

In an extensive study, Hawkins[3] noted avascular necrosis in 0%, 42% and 91% of patients in Group I, II and III respectively. Canale and Kelly[5] later modified this classification scheme, describing a fourth type of talar neck fracture with associated talonavicular dislocation. Studies in the literature to date have demonstrated the occurrence of osteonecrosis in association with as many as 13% of Hawkins I fractures, as many as 50% of Hawkins II fractures, as many as 84% of Hawkins III fractures, and as many as 100% of Hawkins IV fractures[6,7,8].

The main purpose of this study is to evaluate the clinical, radiographic, and functional outcomes of treatment for the fractured neck of talus to see whether the type of talar fracture affected the treatment and functional outcome as described by Hawkins and colleagues.

MATERIALS AND METHODS

A retrospective review was done on forty-one patients with a fracture talus admitted in Dunedin Hospital between 1996 and 2003. Patient information was obtained from their clinical notes, via a questionnaire or a telephone interview. This work was performed under the guidance of Prof. J.C. Theis (Associate Professor of Orthopaedics) after obtaining ethical approval.

These fractures were grouped under different types, depending on the fracture morphology (Table I). The age range of the patients was 15 to 56 with a mean of 38 years, and 66% of them were male. The mechanism of injury was: a motor vehicle accident for seventeen patients; a fall from a height for seventeen; sports-related trauma for six; and an industrial accident for one. Plain radiographs of the foot and ankle were made in all cases. The fractures were classified into groups as described by Hawkins[3] and modified by Canale and Kelly[5].

Although closed, manipulative reduction was attempted at the time of the initial assessment, all fractures subsequently were treated with open