Preventive medicine or discrimination

To the editor — Recently, *Nature Medicine* has examined the issue of preventive molecular diagnosis and the associated risk of discrimination[1–3]. Such discussions on the fundamentals of medicine and the philosophy of health care are essential as we enter a new era of molecular medicine. However, in the real world, potential seeds of discrimination and despair are being sown every day, and these problems cannot be solved through philosophical discussion.

A recent Nebraska Supreme Court judgment concluded that "suffering from a different or abnormal genetic constitution" constitutes the description of "illness," even in the absence of "detectable physical evidence." Hence, the patient's family history of ovarian cancer was "an illness" and should have been covered by her health insurance[4]. This concept of a family history of cancer considered as an "illness" could be stretched and may result in the discrimination of people with a predisposition to (but not necessarily a history of) abnormalities in the absence of detectable disease. A predisposition to breast cancer in, for example, the Ashkenazi Jewish community is now widely recognized, and individuals can be easily tested to determine individual risks[5,6] (and see page 1179 of this issue) potentially exposing them to discrimination at the hands of insurance companies[7]. The dangers of this practice are clear, yet numerous venture capital companies seek to increase the use of diagnostic kits for lethal diseases. How can we control this enterprise and the dissemination of such information? What is the role of government and scientists in the practical management of this new business of risk assessment and how can discrimination be avoided? These are the real issues that should be discussed.

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More on hyperparathyroidism and the vitamin D receptor

To the editor — In the August issue of *Nature Medicine*, Nagasaka and colleagues reported that the frequency of the vitamin D_3 receptor (VDR) genotype *bb* in 22 Japanese patients with primary hyperparathyroidism was not significantly different from that of control subjects[1], a result that was in conflict with an earlier report by Carling and colleagues who reported the higher incidence of the *bb* genotype in Swedish primary hyperparathyroidism patients[2]. However, the frequency of the *bb* genotype is very high in the Japanese population (*bb* 79%, *Bb* 14% and *BB* 8% by our analysis for 105 healthy Japanese), and the number of patients in Nagasaka *et al.*'s study was probably too few to reach firm conclusions. Our study of hemodialyzed patients with secondary hyperparathyroidism support the conclusions of Carling *et al.*

We have analyzed the frequency of the same polymorphism in 468 hemodialyzed patients with chronic renal failure (*bb* 73.9%, *Bb* 19.9%, *BB* 6.2%). Selection criteria included compliance with medication and no history of diabetes or parathyroidectomy. The incidence of a normal PTH concentration (<65 pg/ml; highest limit of normal range by AllegroR RIA kit for intact molecule) was highest in *BB* patients (75.9%), intermediate in *Bb* patients (64.5%) and lowest in *bb* patients (54.9%) ($\chi^2 = 6.775$, $P = 0.034$). Since the numbers of years on hemodialysis varied among VDR genotypes, results were reanalyzed by matching the duration of hemodialysis (omitting patients with dialysis histories exceeding 8 years). Again, we found serum PTH levels significantly higher in *bb* patients (84.8 ± 9.46 pg/ml, $n = 183$, mean ± s.e.m.) than in *BB* patients (35.3 ± 6.81 pg/ml, $n = 23$, $P < 0.05$ by Mann-Whitney U-test). There was no significant difference in sex or age among the three genotypes.

Both Carling *et al*'s study on primary hyperparathyroidism and ours on secondary hyperparathyroidism suggest that varied VDR expression due to allelic polymorphisms of the VDR gene may cause increased proliferation of parathyroid cells and contribute to parathyroid hyperplasia in uremic patients, although other factors presumably also influence its severity.

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New muscle — old story?

To the editor — Recently a new muscle of mastication was described, originating on the maxillary surface of the sphenoid bone[1]. the muscle was found by frontal dissection of cadavers and by MRI scans. The authors checked several English language textbooks of anatomy but did not find any evidence of this muscle in the literature and therefore gave it a new name, "the sphenomandibular muscle." The find was reported in the news pages of *Nature Medicine*[2].

The question now arises, is it really new and could it have evaded discovery despite the diligent investigations of generations of anatomists? In fact, it was previously discovered. More than one hundred years ago, famous anatomists such as J. Henle[3], P. Poirier and A. Charpy[4] reported a deep