

the benefits of other treatment. Fourthly, patients who are unable to participate in a clinical trial should be willing for their treatment and its outcomes to be recorded on a register and potentially available to research.

Such a register would enable copayments to be monitored and audited to ensure that the system is operating properly, and it would allow data on the outcomes of treatment to be used in subsequent reviews by NICE. The register would also allow monitoring of adverse incidents, support additional investigations, and provide mortality data.

Professor Michael Richards, the national cancer director, has been asked by the secretary of state to review whether patients should be allowed to pay for additional drugs and report in October 2008. It will

not be an easy task. The review will have to tackle, for example, whether payments should cover not just the cost of the drug but also the costs of administering it and of possible complications, because the NHS often picks up the cost of complications arising from private treatment. He will need to balance choice against the founding principle of the NHS—that treatment is determined by need not ability to pay. But while preserving the general principles of equity and fairness in the NHS, whatever emerges must deal with the current problem, which is grossly unfair to desperately sick people.

1 Commonwealth Fund international health policy survey of adult's experiences with primary care. New York: Commonwealth Fund, 2004.

2 Harris P, Finlay IG, Cook A, Thomas KJ, Hood K. Complementary and alternative medicine use by patients with cancer in Wales: a cross sectional survey. *Complement Ther Med* 2003;11:249-53.

## Affect and heart disease

Are linked, but the mechanisms are unclear



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### RESEARCH, p 32

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Although connections between emotions and the health of the heart have been postulated for centuries,<sup>1</sup> population based empirical studies were not available until recently. Early interest in the 1970s centred on the type A behaviour pattern characterised by a tendency towards impatience, anger, competitiveness, and achievement. On the whole, however, findings on type A behaviour as a risk factor for coronary heart disease were inconsistent, leading to the notion that subcomponents such as anger may have a more definitive role.

More recently, studies on psychological risk factors have focused on anger, anxiety, and depression.<sup>1-3</sup> Although the topic is continually debated, many prospective studies suggest that anxiety and depression increase the risk for heart disease, especially incident heart disease.<sup>3</sup> Results for anger are more mixed.<sup>3</sup>

The linked study by Nabi and colleagues uses data from the Whitehall II study to examine the association between affect and the development of incident coronary heart disease over 12 years of follow-up.<sup>4</sup> Coronary heart disease was defined as the occurrence of fatal coronary heart disease, first non-fatal myocardial infarction, or first angina. This paper adds to the literature by considering negative affect, which may function as a higher order psychological construct or general disposition that underlies previously studied emotions such as anger, anxiety, and depression.<sup>3</sup>

Nabi and colleagues also looked at the independent influence of positive affect. High positive affect does not necessarily correspond with low negative affect, and most work has focused on the role of negative emotions rather than positive ones.<sup>5</sup> Nabi and colleagues conclude that there is a weak positive association between negative affect and coronary heart disease, but no association for positive affect or for the balance between positive affect and negative affect.

The lack of stronger findings may relate, in part, to the measure of affect and the time between assessing affect and outcomes. Affect was measured by the Bradburn

affect balance scale, which was designed to measure overall psychological wellbeing at a given point in time.<sup>6</sup> The scale consists of questions on feelings over the past few weeks and was explicitly designed to capture affect within a particular time period rather than longer term trends reflecting more enduring dispositions.<sup>6</sup>

Affect can be conceptualised as a state, reflecting a short term experience of emotions brought on by specific situations, or as a trait, reflecting a more stable and general disposition. Because traits are sustained over a longer period, they may have more effect than states on the development of chronic diseases, including coronary heart disease, which are the product of pathophysiological processes that evolve over time. In contrast, short term emotional states may be relevant as triggers for acute events that occur in close time proximity.

Nabi and colleagues assess the influence of affect assessed at the start of the study and the subsequent development of coronary heart disease over 12 years. Although the affect balance scale does measure affect over weeks rather than days, its stability over time in the study sample is unclear. Correlations between affect scores assessed at phase 1 (1985-8) and phase 2 (1989-90) were in the range 0.52-0.55, which suggests only moderate consistency even during the initial part of the study. Further research is needed to explore the differential effects of emotional states versus traits and the disparate mechanisms by which they can influence cardiovascular and other health outcomes.

The study of affect and health can be considered in the broader context of research on social inequalities in health and may help to clarify the influence of social factors. If, for example, negative affect is associated with both low socioeconomic status and poor health, it may be one of many mediators in the formation of gradients of socioeconomic status in health. Such gradients are inadequately explained by adjustments for conventional risk factors and access to medical care.<sup>7 8</sup>

Furthermore, psychological factors could shed light on the contribution of upstream factors (social conditions) versus downstream factors (such as behavioural and biological risk factors) in studying health disparities.<sup>9</sup> Affect, for example, could influence cardiovascular outcomes through its effect on physiological inputs (such as activation of the hypothalamic-pituitary-adrenal axis) or behaviours (such as smoking, exercise, and seeking medical care). As such, emotions may, to some degree, function as an overarching, mid-level factor that organises or assembles a variety of downstream risk factors. Affect could also function as a moderator of specific risk factors. A positive affect, for example, could mitigate the effects of stress. Researchers could even consider interactions between affect and socioeconomic status itself—negative affect could exacerbate the consequences of disadvantage or positive affect could act as a buffer.

So, what are the implications of such research for clinical practice? Trying to change a person's affect might seem a nebulous and difficult proposition, and it is self evident that people should try to be happy. Firstly, negative affect may relate to conditions such as depression and anxiety, which have established methods for diagnosis and various therapeutic options. However, it is not clear whether treatment would reduce the incidence or progression of cardiovascular disease.<sup>10</sup> Nevertheless, strong, independent reasons exist for treating such conditions.

Secondly, one of the hypothesised links between affect and heart disease is through health behaviours such as exercise, which are also subject to modification. Moreover, affect can influence behaviours and behaviours could, in turn, influence affect. Thirdly, depending on the strength and consistency of findings from continued research, and our overall confidence in the causal nature of these relations, psychological factors could eventually attain the status of more conventional risk factors in systems of clinical risk stratification.

- 1 Januzzi JL, Stern TA, Pasternak RC, DeSanctis RW. The influence of anxiety and depression on outcomes of patients with coronary artery disease. *Arch Intern Med* 2000;160:1913-21.
- 2 Kubzansky LD, Kawachi I. Going to the heart of the matter: do negative emotions cause coronary disease? *J Psychosom Res* 2000;48:323-37.
- 3 Suls J, Bunde J. Anger, anxiety, and depression as risk factors for cardiovascular disease: the problems and implications of overlapping affective dispositions. *Psychol Bull* 2005;131:260-300.
- 4 Nabi H, Kivimaki M, De Vogli R, Marmot MG, Singh-Manoux A. Positive and negative affect and risk of coronary heart disease: Whitehall II prospective cohort study. *BMJ* 2008. doi: 10.1136/bmj.a118.
- 5 Pressman SD, Cohen S. Does positive affect influence health? *Psychol Bull* 2005;131:925-71.
- 6 Bradburn NM. *The structure of psychological well-being*. Chicago: Aldine, 1969.
- 7 Van Rossum CTM, Shipley MJ, van de Mheen H, Grobbee DE, Marmot MG. Employment grade differences in cause specific mortality. A 25 year follow up of civil servants from the first Whitehall study. *J Epidemiol Community Health* 2000;54:178-84.
- 8 Williams DR. Socioeconomic differentials in health. *Social Psychol Quart* 1990;53:81-99.
- 9 Schnittker J, McLeod JD. The social psychology of health disparities. *Annu Rev Sociol* 2005;31:75-103.
- 10 Kaufmann PG. Depression in cardiovascular disease: can the risk be reduced? *Biol Psychiatry* 2003;54:187-90.

## Endoscopic ablation for benign enlargement of the prostate

Newer techniques are no better than transurethral resection, but the evidence base is poor

### RESEARCH, p 36

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The prevalence of prostatic enlargement on rectal examination reaches 50% at age 70 and directly correlates with age.<sup>1</sup> The age dependent prevalence of bothersome lower urinary tract symptoms, usually attributed to prostatic enlargement, has been demonstrated in population based studies in many countries, with moderate to severe symptoms being present in 27-56% of men aged 70-79 years in Scotland, France, Japan, and New Zealand.<sup>2-5</sup>

Transurethral resection has been the procedure of choice for surgically treating prostatic enlargement since the 1950s. Its use peaked in the late 1980s and has declined with the introduction of medical treatment and alternative surgical techniques. Drivers of the development of alternative surgical methods include bleeding, electrolyte abnormalities, and prolonged hospital stay associated with transurethral resection. The linked systematic review by Lourenco and colleagues compares several alternative methods of creating an immediate opening in the prostatic urethral channel to the gold standard—transurethral resection of the prostate.<sup>6</sup> These techniques can be broadly categorised as enucleation,

resection, and laser ablation (collectively termed endoscopic ablation by Lourenco and colleagues).

In enucleation, the adenoma is shelled out from the capsule of the prostate. Intuitively, enucleation should offer the best chance of improving symptoms and flow rate because the entire adenoma is removed. Historically, enucleation was done through an abdominal incision. Today, endoscopic holmium laser enucleation of the prostate offers a minimally invasive method of enucleation; however, it is time consuming and technically challenging. In resection procedures—such as transurethral vaporesction, bipolar transurethral resection, or the gold standard (monopolar) transurethral resection—the adenoma is excised piece by piece. These procedures should be equivalent to enucleation if resection is carried down to the capsule. Laser ablation opens the prostatic urethra by evaporating the adenoma. This was originally tedious and reserved for smaller prostates. With refinements in technology—including higher energy lasers—ablation has become more efficient; it is now the most commonly performed procedure for benign prostatic enlargement in the United States, at