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Screening for nuchal translucency

Editorial by McFadyen et al

Measurements give parents useful information

EDITOR—I would like to address two issues raised by Venn-Treloar in her comments about screening for nuchal translucency without the consent of the mother.¹ Firstly, it is incontrovertible that mothers attending for ultrasound scanning in the first trimester believe that the test is designed to confirm that the baby is well. However, I would argue that an inspection for fetal anomalies, including measurement of nuchal translucency, generates such a diagnosis. Secondly, I disagree that the key purpose of measuring nuchal translucency is to decrease the birth rate of children with Down's syndrome.

Patients presenting for ultrasound scanning expect the operator to perform a detailed examination to confirm fetal health. In the majority of cases the fetus is normal but unfortunately in about 2% of cases an abnormality is seen. The benefit of early diagnosis of fetal anomalies is that information can be provided to enable couples to consider various options and to allow appropriate plans to be made for treatment and follow up.

Outcome depends on the recognition of the potential severity of defects; these defects fall into four groups. In lethal conditions, such as anencephaly, the couple may wish to consider the options of terminating or continuing the pregnancy. In disorders that are not lethal but are associated with death, such as diaphragmatic hernia, planned delivery in a centre with appropriate neonatal intensive care facilities will optimise neonatal outcome. In abnormalities that are associated with childhood morbidity such as hydronephrosis, and which may lead to renal failure due to urinary tract infections, prenatal diagnosis provides the opportunity for early postnatal treatment. In the case of chromosomally abnormal fetuses where there is a risk of physical and mental handicap, the couple may wish to continue the pregnancy or undergo termination. Therefore, examining for increased nuchal translucency, which is associated with an increased risk for aneuploidy,² is an essential component of first trimester ultrasound assessment. Couples can consider invasive testing for karyotyping based on the discovery of a risk factor and also avail themselves of counselling about the implications of the chromosomal abnormality.

I was surprised by the author's criticism of the ultrasound operator who performed a comprehensive fetal examination that included measuring nuchal translucency. I am sure that the sonographer, like all involved in prenatal care, believed that the aim of screening for Down's syndrome is not about minimising the birth rate of the condition, but about optimising the position of the parents.³

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- 1 Venn-Treloar J. Nuchal translucency—screening without consent. *BMJ* 1998;316:1027. (28 March.)
- 2 Nicolaidis KH, Azar G, Byrne D, Mansur C, Marks K. Fetal nuchal translucency: ultrasound screening for chromosomal defects in the first trimester of pregnancy. *BMJ* 1992;304:867-9.
- 3 Royal College of Obstetricians and Gynaecologists study group. Statistical aspects of screening for Down syndrome. In: Grudzinskas JG, Ward RHT, eds. *Screening for Down syndrome in the first trimester*. London: RCOG Press, 1997.

Screening provides reliable information on which care can be based

EDITOR—Venn-Treloar is not alone in being concerned about screening for nuchal translucency being done without the consent of the mother.¹ The National Childbirth Trust reported that there are important differences in England and Wales in the information provided before screening, in the types of tests available, and in the amount of counselling provided before, during, and after such tests.²

It is likely that these discrepancies result from the lack of any agreed screening policy in England and Wales. If screening is offered it should be done in an organised and closely supervised way. Counselling should be given before patients attend for any tests, and the information provided should be standardised and agreed between local obstetricians, midwives, and general practitioners. It should be made clear which tests are available and their limitations, and it should be emphasised that such tests are optional and will not be carried out without the prior consent of the patient.

The majority of women want to have an ultrasound scan early in their pregnancy to reassure them that their baby is alive and to confirm their dates. The term "first trimester scan" does not necessarily include screening for nuchal translucency. Data collected over two years at Queen Mary's Hospital in Kent on 8000 scans done at 12 weeks' gestation identified 251 incorrectly dated pregnancies,

164 cases of early pregnancy loss, 128 multiple pregnancies, and 15 chromosomal abnormalities. These data show that detection of chromosomal abnormalities is statistically the least valuable function of a scan at 12 weeks' gestation.

Thus, the first trimester scan provides useful information and should not be looked on as a screening test for chromosomal abnormalities but as a foundation on which subsequent care during the pregnancy can be reliably based. The fact that it also provides an opportunity to screen for chromosomal abnormalities for those who wish it is an added benefit.

Occasionally the nuchal abnormality is so obvious that it can be seen without making a formal measurement. Since increased translucency may also be associated with other chromosomal abnormalities (including trisomy 13 and trisomy 18), cardiac abnormalities, and a number of genetic syndromes, this may create a dilemma for the ultrasound operator if a patient has declined nuchal assessment. The only way to minimise these types of problems is to ensure that the parents understand as fully as possible the purpose and limitations of tests before testing. This should include the use of well written explanatory leaflets and the provision of appropriate counselling by healthcare professionals.

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- 2 Dodds R. The stress of tests in pregnancy: summary of a National Childbirth Trust antenatal screening survey. London: National Childbirth Trust, 1997.

Women are unaware that they can refuse an ultrasound scan

EDITOR—Venn-Treloar was correct to say in her Personal View that ultrasound scans are offered as a part of routine antenatal care and that most women are unaware that they can refuse the test.¹ In September 1996 I attended a symposium on antenatal screening organised by the Birth Control Trust. At the symposium doctors admitted that although the use of ultrasound scanning is almost universal formal consent is rarely sought. Most women are enthusiastic about having an ultrasound scan perhaps because they do not associate scans with screening as they might associate a blood test with screening.

I had an ultrasound scan during my first pregnancy in 1995, not realising that it could have been the first step towards

pressure to have an abortion. I was grateful for this knowledge during my current pregnancy when I again opted to have an ultrasound scan at 19 weeks in order to see my baby and to reassure myself about his or her development; this time at least I was aware of the possibilities.

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Patients give consent by attending for ultrasound scans

EDITOR—Venn-Treloar's experience of having an ultrasound scan during her pregnancy clearly upset her but the bias in her view is obvious. As an obstetrician I sometimes have the feeling that some patients view their carers as people who are working against them rather than as people who want to help them. The trust previously established easily between doctors and patients is more difficult to achieve now. Some women do a lot of reading about pregnancy and probably attend antenatal classes run by groups outside the NHS. They develop ideas about the place of doctors in the management of pregnancy and this makes it more difficult to build a trusting relationship.

I think that Venn-Treloar is wrong when she says that many mothers attend for an ultrasound scan believing that the test is designed to confirm that the baby is well. The majority of mothers understand that ultrasound scanning is done to detect abnormalities and that excluding abnormalities confirms that the baby is well.

The patient expects to be informed about any abnormality identified as a result of the scan. If information is not given she would probably sue her obstetrician when it became known that the abnormality had been detected earlier. If an abnormality is detected health professionals have a duty to give full information about the management of the condition to the patient, even if one option is termination. If this is done properly the patient will be under no pressure to choose an option that is contrary to her beliefs. If she does not wish to have a termination that should be the end of the matter and support for alternative management should be given.

Patients do not give written consent before a consultation; they accept that the clinician will elicit symptoms and signs to make a proper diagnosis. Ultrasound scanning is an extension of the consultation which allows an image of the fetus to be viewed and clinical judgment used. Measurement has been part of clinical skill for a long time. By presenting themselves for consultation or ultrasound scanning patients indicate that they are willing to have the examination. To insist on written consent would slow the process considerably, often to the detriment of other patients.

I do not think that the deviousness Venn-Treloar attributes to her colleagues

exists in practice. I hope her views will not prevent me or my colleagues from continuing to provide this service which has been demanded by patients themselves.

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Counselling should be considered an integral part of screening programmes

EDITOR—Venn-Treloar highlights the existence of a problem that has become obvious to me in the short time I have been in general practice.¹ As a general practitioner registrar I worked in a practice in Berkshire at a time when screening for nuchal translucency had been recently introduced at the local hospital. I was aware that women were often inadequately counselled for this screening test. This prompted me to perform a questionnaire study. Questionnaires were posted to 96 women after screening; 68 (71%) were returned. Women were asked whether they felt they had been adequately prepared for the screening test and were also asked to rate how much they knew about Down's syndrome on a scale of 1 (very little) to 10 (a lot). Altogether 42 (70%) out of 60 women felt they had not had adequate preparation for the test. Twenty four (39%) out of 62 women rated their knowledge of Down's syndrome at 3 or less. Half of these women said they did not want to know more about the syndrome.

The provision of screening programmes raises many issues; one of these is who will provide the counselling.² Evidence suggests that health professionals often lack knowledge about the tests they offer and about the conditions being screened for, that they often underestimate how much information women need or want, and that they underestimate patients' capacity to understand the information they are given.^{2 3} Women who are not adequately counselled are anxious after positive results and are falsely reassured by negative results.²

To date priority has been given to implementing the practicalities of testing and there has been little attention paid to the need for counselling.⁴ It is time that this attitude was reviewed; counselling should be considered a necessary part of the implementation of any screening programme. Counselling will become increasingly important as we are able to detect more genetic abnormalities. Health professionals should be trained to provide counselling. Interested health professionals—such as midwives, obstetricians, and general practitioners—need to have access to funded training programmes to allow them to provide a service for which there will be an increasing demand.

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- 1 Venn-Treloar J. Nuchal translucency—screening without consent. *BMJ* 1998;316:1027. (28 March.)
- 2 Marteau TM. Towards informed decisions about prenatal testing: a review. *Prenat Diagn* 1995;15:1215-26.
- 3 Sadler M. Serum screening for Down's syndrome: how much do health professionals know? *Br J Obstet Gynaecol* 1997;104:176-9.
- 4 Green JM. Serum screening for Down's syndrome: experiences of obstetricians in England and Wales. *BMJ* 1994; 309:769-72.

Having the test gives parents options

EDITOR—I respect Venn-Treloar's opposition to abortion for fetal abnormalities and her view that many families benefit from the richness of life that a baby with Down's syndrome can bring.¹ However, I also respect the views of those parents who when faced with the prospect of having a child who would be severely handicapped choose to terminate the pregnancy.

Pregnant women are offered the option of having an ultrasound scan at 10-14 weeks' gestation. This scan is used to accurately date the pregnancy, determine the presence of one or more fetuses (and whether the fetuses are alive or dead), diagnose major fetal abnormalities (for example, anencephaly, encephalocele, holoprosencephaly, exomphalos, obstructive uropathy, sirenomelia, and amniotic band sequence), and measure the accumulation of subcutaneous fluid in the neck region. Increased nuchal translucency is associated with a high risk of chromosomal abnormalities, major defects of the heart and great arteries, severe diaphragmatic hernia, skeletal dysplasias, and a wide range of genetic syndromes. It is also associated with an increased risk of intrauterine death. Sonographers have the responsibility for examining the fetus and counselling the parents about their findings and the possible importance of such findings.

Increased nuchal translucency and maternal age can be analysed together to determine an estimate of the risk of Down's syndrome. The parents can then be offered the option of having amniocentesis or chorionic villus sampling but they are informed that these invasive tests carry a 1% risk of miscarriage. The perception of the relative risk of a miscarriage compared with the risk of the birth of a baby with chromosomal abnormalities depends on the values and expectations of the parents. We must let parents decide whether to have invasive testing. Similarly, if the fetus is found to have a chromosomal abnormality it should be left to the parents to decide whether to have an abortion or to continue the pregnancy.

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Eugenics should not be encouraged by health professionals

EDITOR—Venn-Treloar's Personal View on screening for nuchal translucency addresses the important issue of who is considered worthy of life by the medical profession.¹

Subjective value judgements should not play a role when decisions are made regarding the provision of clinical care. It is not possible to make an objective evaluation of who is worthy of life: having a lower IQ is merely one of many possible variables that might be considered. People with Down's syndrome (and people with learning disabilities from other causes) play an important role in society. This often extends beyond the joy and love that they may bring to their own family. The extent to which a society can positively assimilate its most vulnerable members is surely proportional to the extent to which any decent individual would wish to belong to that society. The new eugenics movement is abhorrent and should not be encouraged by the medical profession.

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Association between plasma plasminogen activator inhibitor-1 and survival in colorectal cancer

Measuring C reactive protein concentrations may be more useful

EDITOR—Nielsen et al reported an association between circulating concentrations of plasminogen activator inhibitor-1 and survival in patients with colorectal cancer.¹ They suggest that this reflects the specific role of plasminogen activator inhibitor-1 in tumour progression.

It has been known for some time that disease progression in colorectal cancer is associated with an increase in the acute phase response as evidenced by the prototypical acute phase protein (C reactive protein).² We have reported that an increase in circulating C reactive protein concentrations is associated with increased recurrence of tumour in patients who have undergone curative surgery for colorectal cancer.³ There is also evidence that an increased C reactive protein concentration is an independent predictive factor of survival in patients with gastrointestinal cancer.⁴ Therefore the association between increased plasminogen activator inhibitor-1 concentrations and shorter survival in patients with colorectal cancer may merely reflect the acute phase response. Indeed, there is evidence of a direct relation between the circulating concentrations of plasminogen activator inhibitor-1 and C reactive protein in patients with coronary heart disease.⁵

Thus a direct relation between circulating concentrations of plasminogen activator inhibitor-1 and C reactive protein might also exist in patients with colorectal cancer. Measurement of C reactive protein concentration is better standardised and more routinely available than measurement of

plasminogen activator inhibitor-1. Consequently, measurement of C reactive protein concentration may have greater potential in the clinical setting to help predict recurrence of cancer or survival.

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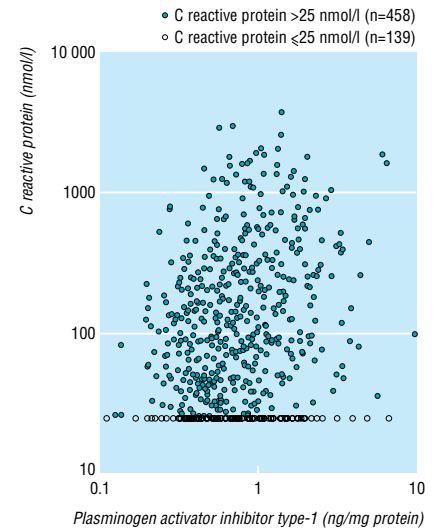
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- Nielsen HJ, Pappot H, Christensen IJ, Brønner N, Thorlacius-Ussing O, Moesgaard F, et al. Association between plasma concentrations of plasminogen activator inhibitor-1 and survival in patients with colorectal cancer. *BMJ* 1998;316:829-30. (14 March.)
- De Mello J, Struthers L, Turner R, Cooper EH, Giles GR and the Yorkshire Regional Gastrointestinal Cancer Research Group. Multivariate analyses as aids to diagnosis and assessment of prognosis in gastrointestinal cancer. *Br J Cancer* 1983;48:341-8.
- McMillan DC, Wotherspoon HA, Fearon KCH, Sturgeon CM, Cooke TG, McArdle CS. A prospective study of tumour recurrence and the acute phase response after apparently curative colorectal cancer. *Am J Surg* 1995;170:319-22.
- Falconer JS, Fearon KCH, Plester CE, Ross JA, Elton R, Wigmore SJ, et al. Acute phase protein response and survival duration of patients with pancreatic cancer. *Cancer* 1995;75:2077-82.
- Haverkate F, Thompson SG, Duckert F, Michalopoulos CD, Mouloupoulos S, Mandalaki T, et al. Haemostasis factors in angina pectoris; relation to gender, age and acute-phase reaction, results of the ECAT Angina Pectoris Study Group. *Thromb Hemost* 1995;73:561-7.

Authors' reply

EDITOR—As Sattar and McMillan suggest, disease progression in colorectal cancer may be associated with an increase in the acute phase response, as evidenced by analysis of C reactive protein concentrations. Plasminogen activator inhibitor type-1 has certainly been indicated as an acute phase reactant in some non-malignant pathological conditions. The question raised by Sattar and McMillan relates to whether the increase in plasma plasminogen activator inhibitor type-1 concentrations observed in our cohort of patients with colorectal cancer reflects an acute phase response. To our knowledge there are no reports that specifically address this question. Several points can, however, be extracted from the published literature.

Firstly, in many types of cancer the plasminogen activator inhibitor type-1 concentration in tumour tissue is higher than that in the normal tissue where the tumour arises.¹ Secondly, in situ hybridisation and immunohistochemistry for plasminogen activator inhibitor type-1 show tumour specific expression and immunoreactivity confined to the tumour stroma—for example, endothelial cells lining the tumour vessels—while no signal is observed outside the tumour tissue.² Thirdly, experiments in wild-type mice and mice in which the plasminogen activator inhibitor type-1 gene has been disrupted show that expression of plasminogen activator inhibitor type-1 permits tumour cell invasion.³ Finally, plasminogen activator inhibitor type-1 competes with the urokinase receptor for binding to vitronectin, and a surplus of plasminogen activator inhibitor type-1 thus facilitates migration. This effect of plasminogen activator inhibitor type-1 is clearly separated from any known function of C reactive protein.⁴



Scatter plot of plasma plasminogen activator inhibitor type-1 and plasma C reactive protein concentrations in 597 patients scheduled to undergo elective colorectal cancer surgery. Spearman rank correlation coefficient for patients with C reactive protein >25 nmol/l was 0.31; $P < 0.0001$

To address the question raised by Sattar and McMillan further we have applied a C reactive protein nephelometric assay (Behringwerke) on the plasma samples that we used in our study. Altogether 458 of the 597 patients had C reactive protein concentrations above the limit of detection of 25 nmol/l (figure). Patients with a C reactive protein concentration at or below the limit of detection had plasminogen activator inhibitor type-1 concentrations in a range similar to that in patients with C reactive protein concentrations above the limit of detection (figure). This means that knowledge of the C reactive protein concentration explains only part of the variability of plasminogen activator inhibitor type-1 ($r^2 = 0.096$).

The lack of a direct correlation between plasma plasminogen activator inhibitor type-1 and plasma C reactive protein suggests a more complex relation, if any, between these two molecules. Measurement of C reactive protein concentrations can therefore not be used as a direct substitute for measurement of plasminogen activator inhibitor type-1 in patients with colorectal cancer.

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1 Pappot H, Gårdsvoll H, Rømer J, Pedersen AN, Grøndahl-Hansen J, Pyke C, et al. Plasminogen activator inhibitor type-1 in cancer. Therapeutic and prognostic implications. *Biol Chem Hoppe Seyler* 1995;376:259-67.

2 Pyke C, Kristensen P, Ralkjaer E, Eriksen J, Danø K. The plasminogen activation system in human colon cancer: messenger RNA for the inhibitor PAI-1 is located in

endothelial cells in the tumor stroma. *Cancer Res* 1991;51:4067-71.

- 3 Bajou K, Noël A, Gerard R, Brünner N, Holst-Hansen C, Fusenig N, et al. Absence of host plasminogen activator inhibitor-1 prevents cancer invasion. *Nature Med* (in press).
- 4 Deng G, Curriden SA, Wang SJ, Rosenberg S, Loskutoff DJ. Is plasminogen activator inhibitor-1 the molecular switch that governs urokinase receptor-mediated cell adhesion and release? *J Cell Biol* 1996;134:1563-71.

Public concern about complaints against doctors is widespread

EDITOR—In your review of the *Dispatches* television programme that attacked the General Medical Council you made several pertinent points about public disquiet.¹ I have now been working as a volunteer for the Patients' Association for over two years, answering letters and calls on the helpline, and I have found that concern about the complaints procedures in place at the local level is widespread. How widespread I cannot say as we only hear from the disaffected, or a small but increasing number of optimistic fraudsters.

The main problem stems from public ignorance, even now, about how the NHS works (referral procedures, etc), the limitations of the patient's charter, and the efficacy of modern treatments. Some relatives do seem to view death, any death, as evidence of negligence. But the view that doctors "gang up" together is common, as is the fear that any complaint will lead to victimisation. The idea that they would have to confront the very person they suspect of injuring them or their relative daunts many, even when they are assured of the support of a "friend" from the Community Health Council. It would help if the initial complaint could be adjudicated by a completely independent panel, drawn from another area of the country perhaps. The apparent tendency for hospital trusts to pay out a small sum to buy off complainants with very weak cases does not help.

Above all, when negligence is undisputed, compensation must be swift and generous, and here the behaviour of some lawyers needs scrutiny. I recently took a call from a young woman who had her gut burnt in several places by the injudicious use of a laser. She has required a reconstructive operation to her bladder and has massive abdominal adhesions and, after three years, is still waiting for compensation. That is a disgrace.

May I add that the avoidable deaths—some, distressingly, of young adults—that have been reported to me have not been due to ignorance about genetic theories or molecular biology but to failure to follow basic medical principles. A lump on the testis in a young man needs referral not reassurance, moles removed in general practice must be sent for histology, and so on. Continuing medical education should sometimes address the basics.

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Trial is needed of ACE inhibitors plus β blockers in survivors of myocardial infarction

EDITOR—Mehta and Eagle have provided an overview of secondary prevention in survivors of myocardial infarction.¹ As well as striving to increase the use of efficacious treatments in these patients, we must be aware of the potential for polypharmacy (and its effects on patient compliance and healthcare costs).

Clinical trials have established that aspirin, β blockers, statins, and angiotensin converting enzyme inhibitors are all associated with survival benefits when tested individually in survivors of myocardial infarction, but we need more information on the incremental benefits (and costs) when several (or all four) of these drugs are used together. The benefits of aspirin, statins, and β blockers may be additive, since they seem to act through different pathophysiological mechanisms, but I question whether all survivors of myocardial infarction should receive both an angiotensin converting enzyme inhibitor and a β blocker.

This question can best be answered by a clinical trial randomising patients with myocardial infarction who have already been treated with aspirin, a statin, and a β blocker to an angiotensin converting enzyme inhibitor or placebo, but such a trial has not yet been done. Some insights can, however, be derived from an overview of subgroups in the trials of angiotensin converting enzyme inhibitors described by Mehta and Eagle. Of the eight published placebo controlled trials of angiotensin converting enzyme inhibitors in survivors of myocardial infarction, seven included patients receiving a concomitant β blocker; only five of these trials, however, reported the raw outcome data for these subgroups.²⁻⁶ Combining the data from these trials under the random effects model shows that treatment with angiotensin converting enzyme inhibitors is associated with an odds ratio of 0.86 (95% confidence interval 0.68 to 1.09) in 10 560 patients with myocardial infarction already receiving a β blocker (table).

I believe that the evidence supports my contention that giving an angiotensin converting enzyme inhibitor as well as a β blocker to patients after myocardial infarction does not provide any clinically important benefit in terms of mortality. Two of the

trials of angiotensin converting enzyme inhibitors suggest that the incremental benefits of angiotensin converting enzyme inhibitors may be greater in those patients with heart failure treated with a β blocker.^{2,4} However, a meta-analysis of data from individual patients incorporating the results of all seven trials of angiotensin converting enzyme inhibitors with subgroups treated with a β blocker and looking at all end points is needed. This would clearly define which patients after myocardial infarction derive additional benefit when an angiotensin converting enzyme inhibitor is added to β blocker treatment.

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- 2 Kober L, Torp-Pederson C, Carlsen JE, Bagger H, Eliassen P, Lyngborg K, et al for the TRACE Study Group. A clinical trial of the angiotensin-converting-enzyme inhibitor trandolapril in patients with left ventricular dysfunction after myocardial infarction. *N Engl J Med* 1995;333:1670-6.
- 3 ISIS-4 Collaborative Group. ISIS-4: a randomised factorial trial assessing early oral captopril, oral mononitrate, and intravenous magnesium sulphate in 58 050 patients with suspected acute myocardial infarction. *Lancet* 1995;345:669-85.
- 4 Pfeffer MA, Braunwald E, Moye LA, Basta L, Brown EJ, Cuddy TE, et al on behalf of the SAVE investigators. Effect of captopril on mortality and morbidity in patients with left ventricular dysfunction after myocardial infarction. *N Engl J Med* 1992;327:669-77.
- 5 Swedberg K, Held P, Kjekshus J, Remessen K, Ryden L, Wedel H. Effects of the early administration of enalapril on mortality in patients with acute myocardial infarction. Results of the cooperative new Scandinavian enalapril survival study II (CONSENSUS II). *N Engl J Med* 1992;327:678-84.
- 6 Ambrosioni E, Borghi C, Magnani B, for the Survival of Myocardial Infarction Long-term Evaluation (SMILE) Study Investigators. The effect of the angiotensin-converting-enzyme inhibitor zofenopril on mortality and morbidity after anterior myocardial infarction. *N Engl J Med* 1995;332:80-5.

Doctors must be trained to deal with adolescents

EDITOR—Siersted et al report an association between high levels of undiagnosed asthma in adolescents and family problems, as well as the health risk factors of high body mass index, passive smoking, and low physical activity.¹ The high rate of under-diagnosed asthma in young people is, however, explained only through the misinterpretation or neglect of symptoms of asthma by patients, parents, or medical professionals.

Siersted et al found that less than a third of those with undiagnosed asthma had

Effects of angiotensin converting enzyme (ACE) inhibitors in patients after myocardial infarction receiving concomitant treatment with β blocker. Figures are number of events*/total number of patients

Trial	Allocated to ACE inhibitor	Allocated to placebo	Odds ratio (95% CI)
TRACE ²	26/148	36/130	0.56 (0.31 to 0.99)
ISIS-4 ³	155/2578	158/2541	0.96 (0.77 to 1.21)
SAVE ⁴	52/391	76/398	0.65 (0.44 to 0.95)
CONSENSUS II ⁵	173/2053	156/2020	1.10 (0.88 to 1.38)
SMILE ⁶	10/140	13/161	0.88 (0.37 to 2.06)
Total	416/5310	439/5250	0.86 (0.68 to 1.09)

*Events defined as primary end points in each study (all cause mortality in four trials²⁻⁵ and all cause mortality or severe heart failure in fifth trial⁶).

reported their symptoms to a doctor. The relationship between adolescents and their doctors is likely to play a part in this. General practitioners believe that they are badly trained in dealing with adolescent patients.² Less than a third of paediatricians and doctors actually enjoy working with young people,³ and general practitioners often allow less time for consultations with adolescents than for those with other age groups.⁴ Young people themselves know little about gaining access to health care and frequently find doctors to be unsympathetic.⁵

Neglect or misinterpretation of symptoms are unlikely to be the cause of a missed diagnosis of asthma in young people. Each of the factors that the authors found to be associated with undiagnosed asthma—high body mass index, passive smoking, low physical activity, and family problems—are frequently associated with other social problems and high risk behaviours in adolescents. Adolescents do not fit easily within a medical model that recognises only disease, diagnosis, and treatment. Instead we must recognise that social and developmental factors are important in mediating the relationship between the person, the disease, the doctor, and medical treatment in this group.

An awareness campaign that targets a single disease is not an effective enough measure. Solving the problem of underdiagnosis of asthma in this age group must include improving young people's access to health care and increased training for doctors in dealing with adolescents.

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- 1 Siersted H, Boldsen J, Hansen H, Mostgaard G, Hyldebrandt N. Population based study of risk factors for underdiagnosis of asthma in adolescents: Odense school-child study. *BMJ* 1998;316:651-5. (28 February.)
- 2 Veit F, Sanci L, Young D, Boves G. Adolescent health care: perspectives of Victorian general practitioners. *Med J Aust* 1995;163:16-8.
- 3 Klitsner I, Borok G, Neinstein L, MacKenzie R. Adolescent health care in a large multispecialty prepaid group practice: Who provides it and how well are they doing? *West J Med* 1992;156:628-32.
- 4 Jacobson L, Wilkinson C, Owen P. Is the potential of teenage consultations being missed? A study of consultation times in primary care. *Fam Pract* 1994;11:196-99.
- 5 Kari J, Donovan C, Li J, Taylor B. Adolescents' attitudes to general practice in North London. *Br J Gen Pract* 1997;47:109-10.

Interrupting the sympathetic outflow in causalgia and reflex sympathetic dystrophy

Terminology is outdated—1994 taxonomy should be used

EDITOR—Schott's editorial questions the value of interrupting the sympathetic outflow in causalgia and reflex sympathetic dystrophy when clinical studies and meta-analyses fail to prove benefit.¹ Continued use of terms such as "reflex sympathetic dystrophy" merely serve to perpetuate the misconception that sympathetic block

should always be therapeutic. A consensus workshop in 1993 recommended a new taxonomy—accepted by the International Association for the Study of Pain—in which "complex regional pain syndrome" types I and II replace the terms reflex sympathetic dystrophy and causalgia respectively.² Reclassification has significant advantages in the establishment of clinical criteria for diagnosis, which should lead to reduced use of numerous synonyms and different treatments. Clinically, the triad of autonomic, motor, and sensory symptoms and signs are variable, and laboratory investigations (thermography, skin blood flow, sudomotor function, and galvanic skin and ice response) are beyond the capability of many hospitals.³ The three phase bone scan is helpful in only 50% of cases.

Most authorities agree that the longer the pain remains untreated (with the concomitant disuse of the limbs), the greater the disability.⁴ Currently, referrals to pain clinics occur as a "last resort strategy," so the result is a more difficult, complex treatment programme and a less successful outcome. The primary pain becomes complicated by secondary pain; gain phenomena; inability to perform daily, occupational, or recreational activities; inappropriate drug use; and even suicide.² This is probably why single treatments, such as sympathetic blockade, do not provide complete pain relief in patients with long term symptoms.⁴ The clinical impression that smokers are refractory to sympathetic block therapy³ may also account for poor results. When diagnosis is definitive, with early referral for pain management we will be able to put therapeutic strategy to the ultimate test—a randomised controlled trial. Until then, editorials and papers presenting opposing views should be put in perspective, especially when the opposing views are presented by the same author.⁵

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- 1 Schott GD. Interrupting the sympathetic outflow in causalgia and reflex sympathetic dystrophy. *BMJ* 1998;316:792-3. (14 March.)
- 2 Merskey H, Bogduk N, eds. *Classification of chronic pain*. Seattle: IASP Press, 1994.
- 3 Hannington-Kiff JG. Sympathetic nerve blocks in painful limb disorders. In: Wall PD, Melzack RM, eds. *Textbook of pain*. 3rd ed. Edinburgh: Churchill Livingstone, 1994.
- 4 Glynn C. Complex regional pain syndrome type I, reflex sympathetic dystrophy, and complex regional pain syndrome type II, causalgia. *Pain Reviews* 1995;2:292-7.
- 5 Loh L, Nathan PW, Schott GD. Pain due to lesions of the central nervous system removed by sympathetic block. *BMJ* 1981;282:1026-8.

Intravenous regional guanethidine blockade is a safe and effective treatment

EDITOR—We disagree with Schott's view that regional guanethidine blocks in patients with reflex sympathetic dystrophy and causalgia are futile.¹ He is correct, however, in saying that a "fresh approach" is needed, as an appreciation of the complex and puzzling nature of these conditions is required. In this connection, we are therefore disappointed that he did not use the current, more helpful terminology—complex regional pain syndromes.

Guanethidine blocks are probably best reserved for patients with sympathetically maintained pain, as opposed to sympathetically independent pain, but differentiating clinically between these groups of patients remains a problem and may have contributed to the unfavourable results in the studies quoted by Schott.

Moreover, guanethidine blocks should not be used in isolation but, as with most chronic pain conditions, should form part of a multidisciplinary treatment plan. Guanethidine blocks provide increased mobility and pain relief,² but these may relapse between blocks. Consequently it is essential that physiotherapy is used in conjunction with the block, so its benefits are maximised. Indeed, we consider it futile to perform these blocks unless accompanied by physiotherapy, and we suggest that the poor, long term outcomes observed in previous studies may also have resulted from the lack of a multidisciplinary approach.

In addition, the study quoted by Jadad et al³, which had to be abandoned as a result of adverse cardiovascular effects after only 16 patients had been treated, has surprised many who regularly use this technique. Perhaps this can be attributed to the relatively short tourniquet inflation time used (15 minutes). Hannington-Kiff recommended 20 minutes to reduce such unwanted systemic effects.⁴ We have recently closely monitored 48 patients having regional guanethidine blocks for cardiovascular side effects and have found no significant changes on electrocardiographic monitoring and orthostatic blood pressure measurement. We therefore consider regional guanethidine blockade to be a safe procedure, and until there is conclusive evidence that it confers no benefit when used in the context described above, we will continue to use this technique.

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- 1 Schott GD. Interrupting the sympathetic outflow in causalgia and reflex sympathetic dystrophy. *BMJ* 1998;316:792-3. (14 March.)
- 2 Field J, Monk C, Atkins RM. Objective improvements in algodystrophy following regional intravenous guanethidine. *J Hand Surg* 1993;18B:339-42.
- 3 Jadad AR, Carroll D, Glynn CJ, McQuay HJ. Intravenous regional sympathetic blockade for pain relief in reflex sympathetic dystrophy: a systematic review and a randomised, double-blind crossover study. *J Pain Symptom Manage* 1995;10:13-20.
- 4 Hannington-Kiff JG. Pharmacological target blocks in painful dystrophic limbs. In: Wall PD, Malzack R, eds. *The textbook of pain*. 2nd ed. Edinburgh: Churchill Livingstone, 1989:754-66.

Author's reply

EDITOR—Allan comments on the current terminology of the International Association for the Study of Pain to describe causalgia and reflex sympathetic dystrophy. The association's terminology (complex

regional pain syndrome types I and II) has the merit of removing the involvement of the sympathetic nervous system (as specified in the association's definitions published eight years previously) but otherwise sheds little new light on these conditions. Currently the taxonomy is perhaps little known among those who are not involved in the field of chronic pain, and whether it will be widely accepted remains to be seen. Indeed, two years after introducing the new terminology, the International Association for the Study of Pain itself published a book with the term reflex sympathetic dystrophy in its title.¹

Lamacraft and colleagues are selective in their citation. I suggested that procedures affecting the sympathetic outflow were futile "for many patients" but that some individuals and some groups of patients may respond. The need is to ascertain which individuals and groups, so that the current hit-and-miss approach can be rationalised. Concerns about toxicity remain. Even some of Lamacraft's coauthors, although concluding that regional guanethidine blockade is safe, reported hypertension, hypotension, and frequent ventricular ectopics during the procedures²; others, too, have reported side effects—in particular, hypotension.

I agree with Lamacraft et al that physiotherapy is an essential component of treatment, an aspect emphasised some 50 years ago.³ Often the difficulty lies in undertaking such treatment in a patient whose limb is very painful. Although treatment remains empirical and often ineffective, I also agree that a multidisciplinary approach provides the best management for these patients; whether the earlier the better, as suggested by Allan, has not been established but intuitively seems logical.

The confusion about causalgia and reflex sympathetic dystrophy might be explicable if the various clinical features reflect various distinct entities, each with its own underlying mechanism and perhaps specific treatment. It is understandable that Allan should take me to task for being inconsistent. At the time of the article she refers to, we regrettably failed to appreciate the powerful contribution of placebo. To witness dramatic pain relief after a block with saline is salutary and provides but one reason why assessing the current place of interrupting the sympathetic nervous system seems appropriate.

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Stellate ganglion blockade: clinics take precautions, but few follow guidelines

EDITOR—A recent editorial by Schott discussed the treatment of causalgia and reflex sympathetic dystrophy.¹ Stellate ganglion blockade is sometimes performed to relieve symptoms of reflex sympathetic dystrophy. The procedure is associated with several risks—for example, convulsions (arising from injection into the vertebral artery) and pneumothorax.²

We undertook a survey of the precautions taken by practitioners using stellate ganglion blockade. A questionnaire was sent to 34 pain clinic consultants in the South West health region. The questions related to precautions that could be divided into three broad groups: (a) prevention of side effects (test dose, x ray control), (b) detection of side effects (level of monitoring), and (c) treatment of side effects (resuscitation facilities, vascular access, trained assistant).

Of the 30 respondents, 29 performed stellate ganglion blockade. Most practitioners did not use x ray control (26) or give a test dose (22) on a regular basis. Seven respondents added that they used regular aspiration as a safety measure. Twenty one practitioners used no form of applied monitoring; 9 used oxygen saturation monitors, of whom 2 also used electrocardiography. All respondents had resuscitation facilities immediately available or close at hand. Only 19 of the 29 practitioners always gained vascular access before the procedure. Twenty doctors always had a trained assistant, whereas 3 were never assisted.

Although this survey shows that most of the clinics that we surveyed do undertake some or many precautions, clearly relatively few follow the guidelines published in standard texts of anaesthetic practice.^{3 4}

Although some respondents pointed out to us that none of the precautions listed would necessarily prevent a critical incident from occurring—for example, a "total spinal" (when an injection of local anaesthetic into the subarachnoid space is in sufficient volume to cause respiratory arrest and cardiovascular collapse)—we feel that vascular access, resuscitation facilities, and presence of a trained assistant should be mandatory.

We conducted a literature search, and to our knowledge no randomised controlled trials into the efficacy of stellate ganglion blockade have ever been undertaken. We feel that unless the benefits of this procedure can be proved by such trials then the potential risks of the procedure may outweigh the perceived benefits.

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1 Jänig W, Stanton-Hicks M (eds). *Reflex sympathetic dystrophy: a reappraisal*. Seattle: IASP Press, 1996.
2 Price C, Rogers P, Campkin NC. Cardiovascular effects of intravenous regional guanethidine block (IRVB). Pain Society annual scientific meeting, Leicester, 22-24 April 1998. (Abstract No 26).
3 Shumacker HB, Abramson DI. Posttraumatic vasomotor disorders, with particular reference to late manifestations and treatment. *Surg Gynecol Obstet* 1949;88:417-34.

1 Schott GD. Interrupting the sympathetic outflow in causalgia and reflex sympathetic dystrophy. *BMJ* 1998;316:792-3. (14 March).
2 Miller RD, ed. *Anesthesia*. 4th ed. New York: Churchill Livingstone, 1994:1559.
3 Prys-Roberts C, Brown BR, eds. *International practice of anaesthesia*. Oxford: Butterworth-Heinemann, 1996:2/141/2.
4 Lee J, ed. *Lee's synopsis of anaesthesia*. 11th ed. Oxford: Butterworth-Heinemann, 1993:628.

Elements of decentralisation in plans to reform NHS may prevail

EDITOR—Klein and Maynard correctly diagnose centralising tendencies in the government's approach to the management of the NHS.¹ What they fail to acknowledge is that there are also decentralising tendencies, and it is unclear which of the two approaches will prevail.

Decentralisation is most evident in the establishment of primary care groups. These groups will play a major part in the commissioning and provision of services in the future. The reluctance of some doctors to participate in primary care groups, for fear that they will be made responsible for rationing and have to accept responsibility for unpopular decisions, indicates that the phenomenon of "blame diffusion" in the NHS (which Klein has analysed over many years) is alive and well. Whether the emphasis on setting national standards for the NHS and intervening to ensure that these standards are achieved will prevail over the attempt to empower doctors and nurses locally to bring about improvements in services remains uncertain.

The third way in health policy espoused by the new government is replete with such tensions and potential contradictions. It is not at all clear how the government will respond when difficulties arise in the future. Klein and Maynard are right to warn that an overcentralist approach may well backfire on politicians, which is why the elements of decentralisation within the reform package may yet prevail.

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1 Klein R, Maynard A. On the way to Calvary. *BMJ* 1998;317:5. (4 July).

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