## Diabetes care

Sir

The audit of diabetes care in general practice reported by Tunbridge and colleagues<sup>1</sup> raises two important issues.

First, the data being collected during routine health promotion can aid audit of process and outcome. However, this will increase the work of the practice nurse.2 I found this to be true in a two-partner practice of 7000 patients in Yazoo City, west central Mississippi, United States of America. Patients who were registered on 1 July 1993 as non-insulin dependent diabetics and who were concurrently receiving antihypertensive medication were investigated. This was in order to implement changes in management, since hypertension may make a more important contribution to cardiovascular complications than persistently high blood sugar levels.3

The practice nurse routinely measured blood pressure, recorded major symptoms and listed medication being taken in the case notes before any patient was seen by the doctor. Further, after the consultation, data on diagnoses (such as diabetes and hypertension) were fed into a computer. Thus, it was simple to ascertain that of the 45 diabetic patients receiving antihypertensive medication (80% women, 67% aged 65 years or more), 42% had systolic blood pressure of 160 mmHg or more and 9% diastolic pressure of 95 mmHg or more.

Table 2. Antihypertensive medication taken by non-insulin dependent diabetic nations:

patients.	
	No. (%) of patients in group
One drug (n = 17) Diuretic Calcium-channel blocker ACE inhibitor Other <sup>b</sup>	7 (41) 6 (35) 3 (18) 1 (6)
Two drugs (n = 16) Diuretic + calcium- channel blocker Calcium-channel blocker + ACE inhibitor Diuretic + ACE inhibitor Other <sup>b</sup>	5 (31) 3 (19) 2 (13) 6 (38)
Three drugs (n = 8) Diuretic + calcium- channel blocker + other Diuretic + ACE inhibitor + other Other <sup>b</sup>	5 ( <i>63</i> ) 2 ( <i>2</i> 5) 1 ( <i>13</i> )

n= total number of patients in group. ACE = angiotensin-converting enzyme. \*Details of medication unavailable for four patients. \*Beta-blockers, alpha-blockers, vasodilators.

Secondly, health professionals who analyse their own data learn to have a more critical attitude towards criteria for selection of drugs. The number, class and sequence of antihypertensive drugs among the 45 patients is shown in Table 2.

This accumulation of data may seem an unnecessarily excessive increase in planned workload but it allowed consideration of the rationale of treatment.<sup>4</sup> Thus, it is clear that the standard stepwise diuretic plus beta-blocker (*British national formulary*, 1993) is not used in 60% of the patients on two drugs. This reflects a high reliance on individualistic therapy. Doctors should be aware of this trend in their prescribing and consider whether this is appropriate for the majority of patients.

R W McCallum

142 Weymouth Drive Kelvindale Glasgow G12 0ET

## References

- Tunbridge FKE, Millar JP, Schofield PJ, et al. Diabetes care in general practice: an approach to audit of process and outcome. Br J Gen Pract 1993; 43: 291-295.
- Koperski M. How effective is systematic care of diabetes patients? A study in one general practice. Br J Gen Pract 1992; 42: 508-511.
- Froom J. Glycaemic control in the elderly. Clin Geriatr Med 1990; 6: 933-941.
- Hart JT. Hypertension: community control of high blood pressure. London: Churchill Livingstone, 1988: 52-76.

## **Estimating date of delivery**

Sir,

I read with interest the paper by Rowlands and Royston. However, the conclusions drawn need to be placed into clinical context and the physical limitations of ultrasonic measurement should be emphasized.

Technical difficulty exists in measuring biparietal diameter. This is a difficult measurement even for experienced observers and is highly position dependent. The accuracy of these measurements lies in the millimetre range and significant inter- and intra-observer variation may occur.<sup>2-8</sup> It is also widely recognized that the accuracy of ultrasound measurement in the middle trimester is of the order of plus or minus 10 to 14 days.4 Measurements taken later in pregnancy carry an even greater degree of inaccuracy. This being the case one could argue strongly against the logic of applying an exact gestational age of weeks and days to any ultrasound measurement as opposed to a more correct 'range' into which the measurement falls.4

The exclusion of all women with high risk pregnancies, whose labour was induced and who underwent obstetric intervention of any sort, leaves a group of

patients who laboured spontaneously at term with a normal obstetric outcome. Little true clinical relevance can be attached to data based on such a group. Additionally, the accepted concept that term is a period extending from the end of the 37th to the 41st completed week of pregnancy would suggest that in the uncomplicated case, accuracy of the estimated date of delivery is of little consequence. The gestational age only becomes relevant when pre-term obstetric intervention or premature labour are considered. In such circumstances accurate dating is important although the overall clinical circumstances would dictate management.

All investigations should be interpreted in the context of the patient's clinical situation. It is dangerous to interpret test data without paying attention to the actual clinical circumstances to which they apply. For example, ultrasound measurements of millimetres in length may determine whether or not a patient receives trisomy serum triple testing.

The concerns expressed by the authors about post-term pregnancy, particularly with regard to negligence and litigation are unfounded. The debate concerning the management of the 'overdue' baby continues. Indeed, litigation may be just as likely if intervention occurs prior to term for dubious reasons.

Finally, clinical truth rarely resides within the confines of a single test. All relevant information should be introduced into the equation of assessment of gestational age, as in any other clinical situation.

SIMON HILL

55 Caldecott Road Abindgon Oxford OX14 5EZ

## References

- Rowlands S, Royston P. Estimated date of delivery from last menstrual period and ultrasound scan: which is more accurate? Br J Gen Pract 1993; 43: 322-325.
- Campbell S, Warsof SL, Little D, Cooper DJ. Routine ultrasound screening for the predication of gestational age. Obstet Gynecol 1985; 65: 613-620.
   Davidson JM, Lind T, Farr V, Whittingham TA.
- Davidson JM, Lind T, Farr V, Whittingham TA. The limitations of ultrasonic fetal cephalometry. J Obstet Gynaecol Br Cmwlth 1973; 80: 769.
- Hansman M, Hackeloer B, Staudach A. Ultrasound biometry in the second and third trimester. In: Wittman BK (ed). Ultrasound diagnosis in obstetrics and gynecology. 10th edition. Berlin, Germany. Springer Verleg. 1085
- Germany: Springer Verlag, 1985.
   Kopta MM, May RR, Crane JP. A comparison of the reliability of the estimated date of confinement predicted by crown-rump length and biparietal diameter. Am J Obstet Gynecol 1983; 145:
- Kurtz AB, Wapner RJ, Kurtz RJ. Analysis of biparietal diameter as an accurate predictor of control and a Clin Ultransmid 1080. 8: 311
- gestational age. J Clin Ultrasound 1980; 8: 319.

  7. Lunt RM, Chard L. Reproducibility of measurement of fetal biparietal diameter by ultrasonic cephalometry. J Obstet Gynacol Br Cmwlth 1974; 81: 682.
- Smazal SF, Weisman LE, Hoppler KD, et al. Comparitive analysis of ultrasonographic methods of gestational age assessment. J Ultrasound Med 1983; 2: 147.