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Postmortem examinations: general practitioners' knowledge, behaviour, and attitudes

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Postmortem examinations help to educate doctors and may reassure the relatives of the person who has died.¹ They provide information that may alter the future clinical management and outcome of a condition²; help ensure and indicate the quality of death certification, on which mortality statistics are based; and may provide some indication of the quality of a patient's care. About a fifth of deaths are followed by a postmortem examination; three quarters of these are requested by coroners for legal, not medical, reasons.³ General practitioners issue over a quarter of death certificates (S Denley and A Berlin, unpublished data, 1992), but rarely request postmortem examinations; exact figures are difficult to obtain. We assessed the knowledge, attitudes, and behaviour of general practitioners with respect to postmortem examinations and reports.

Methods and results

All general practitioners in the areas covered by Newcastle and Sunderland Family Health Services Authorities, in north east England, were sent a questionnaire about their patients' deaths. We asked, among other questions, whether the doctor had requested a postmortem examination or report and for her or his opinions on the value and availability of postmortem examinations. A covering letter and pre-paid envelope were enclosed. A reminder and a second copy of the questionnaire were sent after two weeks, and after a further two weeks the remaining non-respondents in Newcastle were followed up by a telephone call to their practice managers. Telephone follow up was not done in Sunderland because in Newcastle it resulted in only two additional responses.

Two hundred and thirty of the 305 questionnaires sent out were returned, of which 227 (74%) could be analysed as they were complete (126/161 (78%) from Newcastle and 101 (144 (70%) from Sunderland). As the findings from both cities showed no significant differences we combined the data.

The table shows the main findings of the survey. A sixth of general practitioners did not know that they could request a postmortem examination for clinical reasons without contacting a coroner, and half had never done so while in general practice. A sixth of

general practitioners had requested a postmortem examination in the past year, although most had requested a postmortem report at some time.

Findings of survey on knowledge, behaviour, and attitudes of 227 general practitioners in Newcastle upon Tyne and Sunderland with respect to postmortem examinations

	No
<i>Knowledge</i>	
Did not know could request non-coroner's postmortem examination	38
<i>Behaviour</i>	
Had requested non-coroner's postmortem examination:	
In past year	36
In past 10 years	41
Had never requested a postmortem examination while in general practice	107
Had ever requested postmortem report	170
<i>Attitude</i>	
Agreed that:	
Information from postmortem examination is of little clinical value in general practice	4
A higher number of postmortem examinations is important for effective audit of deaths in general practice	96
It would be useful to receive all postmortem reports routinely	217
"It is the moral right of the deceased person's [general practitioner] to know the findings of a postmortem examination"	200
Coroners should be obliged to supply a copy of a postmortem report to the general practitioner	211
It is reasonable for coroners to charge general practitioners for postmortem reports	6
Hospital pathologists should routinely send a copy of a postmortem report to the general practitioner	211

*Non-coroners' postmortem examinations are carried out at request of doctors for medical interest.

Information gained from postmortem examinations was perceived as useful: almost all general practitioners reported that they would value receiving copies of all postmortem reports and that coroners and hospital pathologists should supply reports routinely, although most did not think that coroners should charge for postmortem reports. Almost half of general practitioners thought that more postmortem examinations should be requested to improve audit of deaths.

Comment

The report *Autopsy and Audit* stated that requests from general practitioners for postmortem examinations should be encouraged.³ Though most general practitioners regard postmortem examinations as valuable, however, few request them and some are not even aware that they can do so. This may be because arranging one from the community is difficult: one general practitioner commented that it required several telephone calls and a visit to the pathologist. Furthermore, whether sufficient facilities exist to cope with an increase in requests is unclear.

Our most notable finding was the overwhelming

demand among the general practitioners for post-mortem reports. Local pathologists and coroners do not routinely supply reports to the general practitioner, but general practitioners clearly want them to. Similar findings have been reported elsewhere.⁵

Irrespective of who requests postmortem examinations, the benefits of the findings may be lost if reports are not readily available to the relevant doctors, whether they work in a hospital or in the community. We propose that a copy of every postmortem report should be sent to the family health services authority, which could forward it to the appropriate general practitioner.

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Effect of calcium and cholecalciferol treatment for three years on hip fractures in elderly women

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We recently showed that daily supplementation with 1.2 g calcium and 800 IU cholecalciferol over 18 months substantially decreased the risk of hip fractures and other non-vertebral fractures in elderly women living in nursing homes.¹ We report the results of a further 18 months of treatment.

Subjects, methods, and results

A total of 3270 mobile elderly women (mean age 84 (SD 6) years) living in 180 nursing homes were enrolled in the study. Half the women received 1.2 g calcium daily in the form of tricalcium phosphate, together with 800 IU (20 µg) cholecalciferol; the other half received a double placebo. All subjects were followed up every six months; biochemical variables were measured at baseline and every year in a subgroup of 52 women. Hip fractures and all non-vertebral fractures were separately analysed using a log rank test and an actuarial method; 95% confidence intervals are given.

The table shows the effects of supplementation on the number of fractures. The active treatment analysis show that after 36 months of follow up the probability of hip fractures (-29%; $P < 0.01$) and all non-vertebral fractures (-24%; $P < 0.01$) was reduced in the treatment group. The odds ratio for the decreased risk of hip fracture was 0.70 (95% confidence interval 0.62 to 0.78) and for all non-vertebral fractures 0.70 (0.51 to 0.91). The intention to treat analysis shows that 17.2% fewer subjects had one or more non-vertebral fractures (255 v 308, $P < 0.02$) and 23.0% fewer subjects one hip fracture (137 v 178, $P < 0.02$) in the treatment group. In addition, there was a decreased probability of hip fractures ($P < 0.02$) and all non-vertebral fractures ($P < 0.01$), with an odds ratio of 0.73 for hip fractures (0.62 to 0.84) and 0.72 (0.60 to 0.84) for all non-vertebral fractures. Women with a raised mean serum parathyroid hormone concentration and low serum 25-hydroxycholecalciferol concentration at baseline had normal values after three years of treatment.¹ By contrast, in the placebo group parathyroid hormone concentration significantly increased from baseline values and 25-hydroxycholecalciferol concentration remained low. We measured femoral bone density at baseline in 128 women and found a significant negative correlation between density and serum parathyroid

Effects of cholecalciferol and calcium supplementation on numbers of fractures in elderly women

	Cholecalciferol-calcium	Placebo	P value*
<i>Active treatment analysis†</i>			
No of women‡	872	893	
Hip fractures:			
Total No	109	155	
No of subjects with ≥ 1	109	153	<0.01
Fractures:			
Total No	218	284	
No of subjects with ≥ 1	205	270	<0.01
<i>Intention to treat analysis </i>			
No of women‡	1176	1127	
Hip fractures:			
Total No	138	184	
No of subjects with ≥ 1	137	178	<0.02
Fractures:			
Total No	301	368	
No of subjects with ≥ 1	255	308	<0.02

*By log rank test.

†Includes all subjects under treatment whatever duration of treatment.

‡No of patients at risk during the period adjusted for the censored observations.

||Includes all subjects in active treatment analysis and those followed up after dropping out of study.

hormone concentrations before ($r=0.34$) and after adjustment for age ($r=0.25$).

Comment

Our results are similar to those of Khaw *et al*, who found that bone density at lumbar spine and femoral neck in 138 women aged 45-65 was significantly negatively correlated with serum parathyroid hormone concentration after adjustment for age and body mass index (-0.18 and -0.21 respectively).² Our results also confirm a continued preventive effect of calcium and cholecalciferol supplementation on the risk of hip fracture.¹

Increased parathyroid hormone secretion in elderly women seems to increase the risk of hip fractures. Hypovitaminosis D and a low calcium intake are the main determinants of this senile secondary hyperparathyroidism,^{3,4} but their relative contributions to the risk of fracture are difficult to assess. Vitamin D and calcium reverse and prevent the effects of hyperparathyroidism on bone³ and should be increased in elderly people with a low femoral bone mass and high serum parathyroid hormone concentrations or low serum 25-hydroxycholecalciferol concentrations. The best way would be naturally—by exposure to sunlight and increased consumption of dairy products—but elderly people are notoriously reluctant to change their lifestyle. Therefore daily supplementation with cholecalciferol and calcium salts is the most certain and safest way to reduce the risk of hip fracture because the side effects of physiological doses are negligible. An annual injection of calciferol has also been proposed but did not significantly reduce the number of hip fractures.⁵