Hospital Topics

Persistence of divergent views of hospital staff in detecting and managing hypertension

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Abstract

A questionnaire concerning views of hospital clinical staff was completed by 408 out of 542 staff (75%), comprising 214 medical staff of all clinical specialties, 106 first year clinical medical students, and 88 third year student nurses. On average 386 of 407 (95%) thought that blood pressure should be measured routinely in all inpatients but only 294 of 404 (73%) thought that this was appropriate for outpatients. Although 251 of 390 (64%) were taught to use the muffling of sounds (phase IV) as the diastolic blood pressure, only 219 of 406 (54%) actually used this phase alone. There were appreciable differences between the grades of staff in this respect, a small majority of most grades using phase IV. Roughly half (50 out of 102) of the medical student respondents were taught to use phase IV, but only 38 of 106 (36%) were actually using this phase. While only three out of 16 general practitioners were using phase IV diastolic blood pressure alone, the figure was 66 out of 88 (75%) for student nurses. The level of diastolic blood pressure at which clinicians would begin to treat a 50 year old asymptomatic man ranged from 90 to 121 mm Hg. When these figures were corrected to phase V values, assuming a 5 mm Hg difference between phases IV and V, the range was 85 to 116 mm Hg.

Despite the general agreement among physicians interested in hypertension that the disappearance of sounds (phase V) should be used to denote diastolic blood pressure there is still considerable divergence of opinion among hospital medical staff.

Introduction

There has always been disagreement among doctors on the phase of diastolic blood pressure that should be recorded and used to make decisions about antihypertensive treatment. Hodes *et al* in 1975 found a noticeable tendency for older general practitioners to use phase V, doctors qualifying after 1954 preferring phase IV.¹ In 1979 the views of hospital staff were reported, 49 out of 76 doctors (64%) and 65 of 116 nurses (56%) stating that they used phase IV diastolic pressures.² Since then several major hypertension treatment trials have been published,^{3,4} all using phase V diastolic

pressures, one showing benefit from treating patients with diastolic pressures as low as 90 mm Hg. We therefore decided to assess the effects of these developments on the habits of hospital staff, including medical and nursing students. In order to compare our results with those of Taylor and coworkers² we used an identical questionnaire. The nurses in the study of Taylor *et al* were trained rather than student nurses.

Methods

All doctors working in clinical specialties in this hospital, whether employed by the National Health Service or by the medical college, were sent a questionnaire. In addition, all first year clinical medical students were approached directly or sent a questionnaire and two intakes of final year student nurses were approached directly with a questionnaire.

The questionnaire included the following five questions: (1) Do you consider that blood pressure should be measured routinely in all hospital inpatients regardless of complaint? (2) Should blood pressure be measured routinely in all hospital outpatients regardless of complaint? (3) When measuring diastolic blood pressure, do you take the reading at the point of muffling (phase IV) or at the point of disappearance of sounds (phase V)? (4) Were you taught to use phase IV or phase V? (5) At what level of diastolic blood pressure would you begin to treat an asymptomatic 50 year old man for hypertension? This last question was addressed only to medical staff and medical students. If a respondent used phase IV diastolic blood pressure his or her answer to question 5 was corrected to phase V by subtracting an arbitrary 5 mm Hg.

Each questionnaire was marked with a name, department, and grade (consultant, senior registrar, senior house officer, etc). Medical college staff were coded according to their honorary NHS grade—for example, professors, readers, and senior lecturers were included as consultants. Each recipient was offered three options: (1) complete the questionnaire and return it; (2) complete the questionnaire and return it after removing their name; (3) return the questionnaire unanswered to prevent being asked again.

Results

We received completed questionnaires from 214 out of 309 doctors (69%), all 88 student nurses, and 106 of 145 medical students (73%). Among these respondents 54 out of 370 (15%) elected to remain anonymous. In all but one of these the respondent's grade was known. Among the doctors, 81 out of 96 consultants (84%), 48 of 66 senior registrars (73%), 35 of 44 registrars (80%), 23 of 31 senior house officers (74%), 16 of 42 general practitioners (38%), and 10 of 30 housemen (33%) replied.

Our results (tables I and II) differed from those of Taylor *et al*² in several important respects. Overall, fewer of our respondents thought that blood pressure measurement in outpatients should be routine (table III). Among our respondents, only 21 out of 52 surgeons (40%) and five out of 10 obstetricians and gynaecologists thought that such measurements should be routine (table I). Considerably more of our nurses (71/85; 84%) were taught to use and were actually using (66/88; 75%) phase IV diastolic blood pressure, whereas the figures for doctors were slightly lower in our study compared with the data of Taylor *et al* (table III).

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When paediatricians and medical students were excluded from the analysis the range of diastolic blood pressure values at which treatment would be started tended to be lower in our study, ranging from 85 to 116 mm Hg with a median value of 95 mm Hg. The range for medical students was 75 to 120 mm Hg.

TABLE I—Proportions of medical staff (percentages in parentheses) in each specialty who said that blood pressure should be measured routinely in all inpatients and outpatients. Anonymous respondents not included

Department	Inpatients	Outpatients
Medicine	95/99 (96)	79/98 (81)
Surgery	51/52 (98)	21/52 (40)
Obstetrics and gynaecology	9/10 (90)	5/10 (50)
Paediatrics	4/6 (67)	3/6 (50)
Psychiatry	7/7 (100)	3/7 (43)
Anaesthetics	15/15 (100)	11/15 (73)
Accident and emergency	5/7 (71)	3/7 (43)
Total	186/196 (95)	125/195 (64)

TABLE II—Numbers (and percentages) of respondents in each grade who used and were taught to use phase IV and phase V diastolic blood pressure readings

	Method used (n=406)			Method taught (n=390)		
	Phase IV	Phase V	Both	Phase IV	Phase V	Both
Consultant	47 (59)	32 (40)	1	50 (65)	26 (34)	1
Senior registrar	23 (48)	22 (46)	3	29 (66)	14 (32)	1
Registrar	21 (60)	12 (34)	2	25 (74)	8 (24)	1
Senior house officer	15 (65)	8 (35)	0	17 (77)	4 (18)	1
Houseman	6 (60)	4 (40)	0	6 (60)	2 (20)	2
General practitioner	3 (19)	11 (69)	2	3 (19)	12 (75)	1
Medical student	38 (36)	64 (60)	4	50 (49)	41 (40)	11
Student nurse	66 (75)	22 (25)	0	71 (84)	14 (16)	0
Total	219 (54)	175 (43)	12 (3)	251 (64)	121 (31)	18 (5)

TABLE III—Percentages of doctors and nurses answering "yes" to each of four questions and range of answers to level of diastolic blood pressure at which doctors would start treatment in an asymptomatic 50 year old man. Figures in parentheses represent answers to same questions obtained by Taylor and colleagues²

Question	Doctors	Nurses
Inpatient blood pressure (%)	95 (100)	96 (95)
Outpatient blood pressure (%)	64 (83)	81 (93)
Taught phase IV (%)	64 (70)	84 (51)
Use phase IV (%)	54 (65)	75 (56)
Treatment (mm Hg)	75-120 (90-130)	—

Discussion

Our overall response rate (75%) was adequate and similar to other studies.^{1,2} The response rate was poor from general practitioners (38%) and housemen (33%). The complete response from student nurses was probably a reflection of the method of presenting the questionnaire by direct approach immediately before a lecture. The overwhelming support for routine measurement of blood pressure among inpatients did not apply to outpatients, only 64% of medical staff and 73% of all respondents believing that blood pressure should be recorded routinely in all outpatients. This is rather lower than the 83% for doctors and 93% for nurses reported by Taylor *et al.*²

Our study undoubtedly confirms that the "diastolic dilemma"³ or "diastolic anarchy"²² persists. Recent hypertension treatment trials have used sitting phase V diastolic blood pressure and reported benefit from treating patients with readings of 95-104 mm Hg³ and 90-104 mm Hg.⁴ The Medical Research Council trial of mild hypertension⁶ is still in progress but for patients not entered into this trial there is good evidence of benefit, albeit from other countries, for treating middle aged patients with diastolic pressures down to 95 mm Hg. There can be no justification for the failure to treat patients with pressures of 105 mm Hg, yet over 5%

of doctors said that they would not treat such patients. Similarly, over 5% of respondents would treat an asymptomatic 50 year old man with a diastolic blood pressure of less than 90 mm Hg.

In order to make use of data from clinical trials of this sort it is essential that diastolic blood pressure should be measured in a similar manner. If this is not done "diastolic anarchy" may become "therapeutic anarchy," which is dangerous for patients.

Unlike other studies we included medical students and student nurses in our survey. The finding that 49% of medical students and 84% of student nurses are still being taught to use phase IV diastolic pressure is worrying. It suggests that the impact of methodological lessons of recent therapeutic trials has not yet reached the medical and nursing teaching staff, or that the staff are not convinced by the evidence. Unfortunately, this means that the present confused situation is being perpetuated. The trend towards a limited abandonment of phase IV in favour of phase V in the interval between being taught and the time of the study is encouraging, but needs to be associated with an increasing awareness of criteria for treatment in a condition for which therapeutic intervention has been found to be of real value.

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Clinical curio: recurrent threadworm infection presenting as nasal itching

A 10 year old girl has suffered from recurrent threadworm infections (enterobiasis) over the past five years. She has taken the usual hygiene measures to break the cycle of autoinfection and received a wide range of anthelmintics to combat the problem, but the infection has continued to recur roughly three times a year. I have seen the threadworms myself on direct examination of the perianal skin on two occasions, and her mother has also identified them during other episodes both in the stools and on the perianal skin. She suffers from the classic pruritus ani associated with irritability and misery. This eventually resolves with treatment, but she can predict when an episode is about to occur as she suffers from itchiness in the left nostril 48 hours before the infection. The nasal itching invariably occurs before the other symptoms and always affects the same site. There is no history of atopy, and she is otherwise in good health. She now receives intensive treatment at the onset of this predictive symptom, and the episodes appear to be resolving.—PAUL MYERS, general practitioner, Romford, Essex.

A patient has just taken over a fishing tackle shop from which he sells large quantities of maggots as bait. After handling maggots in quantity he has symptoms of asthma which he puts down to ammonia fumes given off by the maggots in bulk. Is this a plausible explanation and what investigations should be done?

Allergy to fishing maggots has long been known to occur and has been called "Gozzer's gasp." The precise agent or agents which cause wheezing have not been identified and could be ammonia fumes given off by maggots but equally may be a response to some protein product of the maggots or the dust of the preparation they are contained in. Investigation would seem to be unnecessary as the individual has recognised the adverse effect of handling maggots. The only possible treatment is removal from exposure and this would imply that the affected individual should delegate to others the receiving, handling, and distribution of maggots.—JOHN COLLINS, consultant physician, London.