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Pre-Operative Blood Pressure Measurement and Management in the United Kingdom and Ireland – A Joint Guideline by the Association of Anaesthetists and the British Hypertension Society

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Abstract

This is a summary of a pre-operative blood pressure measurement and management guideline intended for use in the United Kingdom and Ireland. It is a joint guideline by the Association of Anaesthetists of Great Britain and Ireland (AAGBI) and the British Hypertension Society.

A working party was formed comprising of four members of each society. A Sprint Audit revealed that, due to blood pressure measurement concerns, approximately 100 patients had their procedures cancelled or postponed each day in the UK. A consultation process was conducted which included all members of both societies, the Blood Pressure Association, which is a patient interest group and 20 UK general practitioners (GPs).

The recommendations are that GPs refer people for elective surgery if their BPs were less than 160/100 mmHg in the last 12 months.

Secondary care should accept these referrals BPs as the best measurement available. If no primary care measurement of BP has been carried out then pre-operative assessment clinics should do this using best practice. Elective surgery can proceed if the pre-operative assessment clinic BP is <180/110 mmHg.

There are different BP thresholds for primary care and secondary care, namely 160/100 and 180/110 mmHg. The 160/100 cut off is in line with NICE guidance for primary care. There is no evidence of harm in the peri-operative period for BPs below those figures. In the short-term peri-operative period of 30 days there is limited evidence of harm if the BP exceeded 180/110 pre-operatively. It was our opinion that BP measurements are more accurately determined in primary care compared to secondary care, because the familiar primary care setting reduces stress and the primary care team is more experienced in BP measurement.

There is a clear need for further research in this area.

Keywords: Blood pressure; Surgery cancellation; Pre-operative assessment; Family doctors

Introduction

Cancellation of elective surgery because of high blood pressure (BP) on admission to hospital is a frequent occurrence. How often is the BP measured in the hospital setting falsely high and how often is that cancellation unnecessary? It is a cause of disappointment for the patient and frustration for the anaesthetist and surgeons. It is also an annoyance for the family physicians and nurses who will be asked to manage the patient's hypertension before their surgery is rescheduled. In some instances the BP will be influenced by a 'white coat effect'. There is evidence of poor measurement techniques in hospitals [1]. In the United Kingdom (UK) there was evidence that hospitals varied in terms of local protocols to deal with this matter [2]. A national guideline to inform policy was lacking and therefore there was no consistent, uniform approach adopted by the different providers of care. The British Hypertension Society (BHS) approached the Association of Anaesthetists of Great Britain and Ireland (AAGBI) to develop a joint guideline to better manage this situation. The guidance was published in January 2016 [3].

The Guideline Process

The Working Party first met on the 5th January 2013. It was comprised of four members of each society, chosen for their different skill sets. This included vascular anaesthetics, ethics, cardiology, pre-assessment and primary care skills. A full literature search was conducted. A Sprint Audit of hospitals in North West London was carried out and this was compared to existing national audit data [4]. After the first draft of the guideline was prepared a one-month consultation process was conducted which included all members of both societies. The Blood Pressure Association (BPA) is a group for people with hypertension or their relatives. We specifically asked the BPA for their views on the matter and their comments did influence the final document. We also asked 20 UK general practitioners if they felt the guidance was appropriate to primary care.

Results

The Sprint Audit revealed that, due to blood pressure measurement concerns, approximately 100 patients had their procedures cancelled or postponed each day in the UK. The literature search revealed very little scientific evidence to support any clear cut-off points for either a safe or unsafe pre-operative blood pressure. The consensus agreement was that blood pressures measured by family doctors prior to the hospital assessment were most likely to be accurate.

The Guideline Recommendations

Here I have summarized the recommendations, please see the original articles for the fully worded versions:

1. General practitioners can refer people for elective surgery if their BPs were less than 160/100 mmHg in the last 12 months.

2. Secondary care should accept these referrals documenting BPs below 160/100 mmHg in the last 12 months.

3. Pre-operative assessment clinics do not need to measure the BPs of patient's pre-surgery, if their BPs were <160/100 mmHg and this was recorded in the referral letter.

4. Hypertensive patients can be referred if the BP is <160/100 mmHg. Patients may still be referred if they remain hypertensive despite best treatment and if they have refused to accept medication.

5. If there is no BP recorded in the referral letter, then the hospital should enquire if any readings are available from primary care.

6. If no primary care measurement of BP has been carried out then pre-operative assessment clinics should do this using best practice.

7. Elective surgery can proceed if the pre-operative assessment clinic BP is <180/110 mmHg.

You will note that we have used different BP thresholds for primary care and secondary care, namely 160/100 and 180/110 mmHg. BP reduction in primary care is governed by excellent long-term evidence that cardiovascular morbidity is reduced, and this is particularly true of stroke morbidity [5]. The 160/100 cut off is in line with NICE guidance for primary care [6]. There is no evidence of harm in the peri-operative period for BPs below those figures [7]. In the short-term peri-operative period of 30 days there is limited evidence of harm if the BP exceeded 180/110 pre-operatively [8-10]. That evidence is quite old and the studies were very small in terms of patient numbers. It was our opinion that BP measurements are more accurately determined in primary care compared to secondary care, because the familiar primary care setting reduces stress and the primary care team is more experienced in BP measurement.

Because few primary care doctors and nurses in the UK are likely to read the journal Anaesthesia, we also published an editorial summary of the new guidance in the British Journal of General Practice [11].

Future Directions

There is a clear need for further research in this area. We will be auditing the take up of the guideline in the UK and looking for any evidence that it has reduced unnecessary cancellations. Evidence that the levels we have suggested are safe, or harmful, will be much more difficult to prove.

Conclusion

We are recommending that the best place to measure BP prior to elective surgery is in the primary care setting. We also recommend that any BP below 160/100 is safe for elective surgery, and that if this is measured in hospital, then below 180/110 is a safe cut-off.

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