

Hip replacement, hip seeding, and epidural anaesthesia

A Macdowell and colleagues recently reported that epidural anaesthesia does not increase the need for urinary catheterisation after total hip arthroplasty compared with the situation in patients receiving general anaesthesia.¹ This observation in the UK is important as, for years, orthopedic surgeons and anaesthetists have been reluctant to use epidural anaesthesia, thinking that such anaesthesia increases the need for urinary catheterisation. Experience in the UK² had been that urinary catheterisation might result in bacterial seeding to the recently operated hip, with disastrous consequences because gram-negative infections are fairly resistant to treatment.³

If the risk of seeding the hip is such a big issue, why bother using epidural anaesthesia at all. The answer is that such anaesthesia confers many advantages for patients undergoing total hip arthroplasty. Blood loss is reduced by 30–50%, resulting in less blood transfusion.⁴ Similarly, the risk of thromboembolic disease is reduced by 40%, enabling less powerful anticoagulants, such as aspirin, to be safely used.⁵ Post-operative pain is better controlled, patients regain mental acuity more quickly,⁶ and in all likelihood recover earlier, all compared with general anaesthesia. Perioperative mortality also is reduced by at least 30% with epidural compared with general anaesthesia.^{4,7}

Not all epidural anaesthetics are alike. Macdowell and colleagues used a smaller dose of local anaesthetic (bupivacaine) and a short-acting narcotic, fentanyl, which would be insufficient local anaesthesia by itself. So they also administered general anaesthesia to these patients. These lower doses would tend to wear off more rapidly than higher doses, facilitating more effective return of bladder tone. The likelihood of prolonging bladder dysfunction is increased if larger doses of longer-acting local anaesthetics or narcotics are used, or if the epidural is maintained for 24–48 h in the form of epidural analgesia. In these settings, the need for urinary catheterisation exceeds 50%.^{2,8}

The approach in the UK seems to have been to avoid the need for urinary catheterisation if possible.^{2,3} This approach was based on experience from the 1960s and 1970s, when 6.2% of 195 male patients who developed urinary retention after total hip arthroplasty, and were subsequently catheterised,

developed an infection of the operated hip. 70 of these patients also underwent prostatectomy. By contrast, in the USA, routine placement of a urinary catheter in the perioperative period is more commonplace. Two randomised trials showed that routine urine catheterisation did not increase the risk of bladder infection or urinary retention.^{9,10} Interestingly, in these studies, neither epidural nor spinal anaesthesia increased the rate of urinary infection or dysfunction compared with general anaesthesia. Post-operatively, urine cultures were positive in 10–15% of the patients in each study.

At our orthopaedic teaching hospital, epidural or spinal anaesthesia is used in nearly all patients undergoing total hip arthroplasty. Epidural analgesia is maintained for 24–48 h postoperatively. Urinary catheters are placed in all cases, sometimes in the operating room but usually immediately after surgery before the epidural anaesthesia wears off. Catheters are placed aseptically by trained personnel using closed systems. Intravenous antibiotics are administered for 24 h perioperatively. The catheters are discontinued when patients can stand or when the epidural analgesia is discontinued. In the past 12 months, we have done total hip arthroplasties in 2621 patients. 23 patients (0.9%) developed evidence of a urinary infection postoperatively and were treated. Three (0.11%) patients developed a wound infection within 3 months

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of surgery; none of the cases were patients who developed urinary infections after surgery and the bacteria isolated were not urinary tract pathogens.

The risk of bacterial sepsis secondary to urinary catheterisation managed according to current guidelines¹¹ is about 0.1%. In a prospective series of 1497 newly catheterised patients, 235 acquired a urinary tract infection yet only one patient developed sepsis.¹² It appears that the risk of seeding the operated hip by placing a urinary catheter is minimal nowadays. Thus, as Macdowell and colleagues conclude, patients undergoing total hip arthroplasty should no longer be denied the benefits of epidural anaesthesia because of the risk of urosepsis.

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Reforming the Russian health-care system

Across Russia, pensioners are protesting about reforms that will remove many of the benefits they currently enjoy, such as free transport and subsidised accommodation and fuel, replacing them with cash allowances that they consider inadequate compensation for what they will lose. This protest is the most visible manifestation of a wide-ranging programme of reform being undertaken by President Vladimir Putin as he seeks to tackle the deep-seated problems facing the country. These reforms have implications for all areas of the Government's activity, including the health sector.

There is little argument that something must be done to reform the Russian health system. Life expectancy is continuing to decline, with many of the premature deaths from causes that should be preventable with timely and effective health care.¹ Yet the existing structure of the Government makes change very difficult, a situation that is now being addressed by the wider process of reform.

One element of the reforms is the re-imposition of centralised control. Even before he became president of an independent Russia, Boris Yeltsin had urged the

regions of Russia to “gobble up as much autonomy as you can handle”,² a view enshrined in the 1993 Russian Constitution, which made the regions (the 89 so-called subjects of the Russian Federation, including various entities with differing degrees of autonomy) “equal subjects”, led by elected Governments, within a federal structure. This process was encouraged by western advisers, who saw the strengthened regions as a counterweight to the sclerotic federal Government.

The 89 regions, which since 1993 had shared responsibility for health policy with the federal Government, formed nine supraregional economic groupings with no political or administrative power. In May, 2000, Putin issued a decree replacing these groupings with seven federal regions.³ He appointed his own representatives to lead them, giving them wide-ranging but poorly defined authority. Although formally the new regions had no responsibility for the health sector, the President's representatives soon appointed deputies to fill a perceived vacuum in relation to health and other policy areas. As a consequence, an unforeseen process of inter-regional coordination is now taking place in the health sector.