Medical Review Foundation, Inc.

120 Beulah Road, NE, Suite 200
Vienna, Virginia 22180
Toll Free: 800-336-0332
Fax: 703-255-6134
www.malpracticeexperts.com

NeuroSurgery Sample Case

Lumbar spinal decompression and fusion becomes infected causing chronic pain. Operation not justified.

On 1/21, this patient underwent spinal decompression surgery removing bone, a thickened spinal fibrous ligament and disk material at the L3-4, L4-5 and L5-S1 lumbar spinal levels with removal of some disk material at those sites and a fusion bone graft procedure. Surgery was complicated by significant bleeding that the surgeon, Dr. #1, attributed to the patient taking aspirin before surgery.

Postopertively, the endotracheal tube used to give general anesthesia and oxygen during surgery was correctly left in place overnight because of the significant swelling of his head and neck from his face down (prone) position and the massive amount of fluid needed to maintain his stability during that bloody operation. The anesthesia care was good.

Postoperatively, he developed fever, headache and confusion. After consultations on 1/30, Dr. #1 performed a spinal tap at the L2-3 level and the spinal fluid was infected with the germ Staph aureus, the same germ that was the cause of his postoperative wound infection that was properly treated with the antibiotic, Vancomycin.

Because of the presence of the spinal fluid infection, (meningitis), the CT scan consistent with a blood collection (hematoma) which could be infected, and with additional consultation, Dr. #1 properly took him back to the operating room on 1/30. He found spinal fluid instead of blood at the operative site. He noted that "the dural (spinal cord and nerve root thin covering) opening was then (sutured) closed with interrupted #6-0 Prolene (very fine nylon) sutures, closure was done up to the point where the nerve root sleeve had some exposure of the nerve itself." At that point he noted, "There was virtually cessation of the spinal fluid egress from the subdural space and the dura then returned to its normal volume with the production of cerebrospinal fluid."

At the first operation he placed an electronic bone stimulator to help accelerate the healing of the bone graft for the fusion part of the operation. Since he found no overt pus (purulence) at this second operation on 1/30 it was a "judgment call" whether or not to remove it. Some would contend that it was negligent judgment considering the serous risks of a worsening of the infection in its presence, including meningitis and chronic osteomyelitis (bone infection).

Thereafter he received antibiotic therapy following his discharge from the Hospital #1, until 2/13. Beginning on 2/16, he became sick and was seen in the emergency room by Dr. #2 who performed a spinal tap confirming a recurrence of the Staph aureus meningitis.

He was transferred to the Hospital #2 where Drs. #3 and #4 operated on 3/4 and cleaned out the wound, removed the bone stimulator, loose and infected bone chips (confirmed by the pathologist, "acute and chronic osteomyelitis"), and inserted "antibiotic beads." They continued antibiotic therapy and re-operated on 3/6 to insert drains and close the wound.

At the 3/4 operation, Dr. #4 noted, "There was a clear suture noted in the dura at L5-S1 but the dura appeared waterproof and was tense (not leaking) so no further sutures were placed."

He was followed up by Drs. #3 and #4. The wound healed. As would be expected, the bone fusion did not solidify because of its increased risk of failure from the infection, the absence of the bone stimulator which had to be removed because of all the pus (purulence) that was found at that time, and his smoking.

The patient developed severe chronic low back pain and depression, which has been very difficult to control. That is related to the effects of the infection and the associated inflammation and scar tissue that occurs following an extensive operation which becomes infected.

The care at Hospital #2 thereafter was good.

With any decompressive spinal operation a dural tear can occur, and in the presence of extensive bleeding, there is an increased risk that vision of the Surgeon is more likely to be obscured. As noted in his five-page operative report dictated two days after surgery and before the subsequent complications surfaced, Dr. #1 took precautions to prevent such injury. He stated, "Cottonoid Paddies (postage stamp felt-like pads) were placed toward the advancing margin of the lamina (bone) to attempt to separate the dura from the lamina to prevent capture (grabbing) by the rongeurs (bone biting and cutting pliers-like device), and this was successful throughout the procedure to prevent dural tearing."

In my opinion, if he snagged and tore it at that operation, or if the bone graft cut into it over time, that is not from negligence. In fact, at the second operation on 1/30 he said, "At the L5 laminectomy (spinal bone removal for decompression) site there appeared to be some thinning out of the dura at one point where a portion of the bone graft was opposed to the dura, a shift of the posterolaterally placed bone graft element which had impinged on the dura but had not completely penetrated into the subdural space." He previously described a 1.5 cm (3/5 inch) rent (hole, tear) in the dura and said, "There was some fraying of the dura toward the more cephalad (head direction) portion of this rent."

I have a few concerns. The first is whether or not the patient was warned not to take any aspirin or aspirin-containing medication for one week before the operation. The failure to warn is negligent. The bleeding increased the risk of dural tear and infection to some degree.

The next concern is whether or not he should have undergone the operation at all. He hurt his back less than one month before, had some physical therapy and a brief hospital stay plus traction (1/2 - 1/6). The MRI scan showed significant disease at those three levels, which produced spinal stenosis (hourglass-like deformity) which could put pressure on the spinal nerve roots causing his symptoms. On 1/20 the radiologist, Dr. #5, compared the plain lumbar x-rays he took to the prior MRI and x-rays from Dr. #1's office and did "confirm apparent bilateral spondylosis of LS without spondylolisthesis (one bone shifting out of position over the next one). He does not mention any spinal stenosis, narrowing of the hollow space within which all the spinal nerves pass. You should authorize us to have those x-rays and MRI evaluated by a Neurosurgery Expert and/or Radiology Expert.

Furthermore, I was very surprised to find in Dr. #1's admitting physical examination, "Straight leg raising test negative at 90 degrees." With the spinal nerve root(s) being irritatively compressed to cause such pain, by having the patient lie down and lift the foot (and leg) upward, it stretches the sciatic nerve and ligaments and would cause severe pain at even 20 to 30 degrees. There was no pain at 90 degrees! Based on that, I have even more serious concerns as to what the MRI showed and why the patient was not offered more conservative therapy (time to heal) since there was no weakness, loss of reflexes, bladder or bowel symptoms to rush into an operation. Ninety percent of patients given adequate conservative therapy do well. As I noted, I believe he was denied that opportunity. Without the operation, there would be no infection, dural leak and meningitis. There would also be no severe chronic pain and depression.

My next concern relates to the development of the infection and to its source. As noted, the back was correctly cleansed and sterilely draped at the beginning of surgery. According to the discharge summary dictated four months later, he also received an

infection prophylactic (preventative) dose of the antibiotic, Vancomycin, immediately before that operation. Did he? I have not seen the Doctor orders sheet, the medication index, the anesthesia record or the Operating Room Nurses notes which should be obtained for the first two days of his hospitalization (1/21 through 1/23). Since they were performing a bone graft procedure and inserting the "foreign body" electrical bone stimulator, if he did not get the prophylactic antibiotic, as noted, which usually is given for one or two days after surgery too, that would be negligence and increase his risk for infection. Please supply those missing records so I can prepare an addendum report on that issue.

I have a concern involving his smoking two packs per day, and as Dr. #1 noted in the Admitting History, "Successful spinal fusion is enhanced by cessation of cigarette smoking. This has been encouraged." Was the patient really advised and how was he "encouraged?" Was he sent to any program to help him stop before this elective operation?

My final concern is whether or not the hospital's Infection Control Committee investigated this Staph aureus infection to try to determine its source. Those records should be obtained. Did Dr. #1 have an excessive infection rate? Was his nose and throat ever cultured to see whether or not he was a carrier of Staph aureus? If they failed to do so, the hospital would be negligent, especially if his other patients also contracted Staph aureus infections.

Based on the above, there may be negligent care as the cause of the patient's current chronic pain and depression for all the reasons stated. After I review the requested documents I would suggest that good copies of the preoperative lumbar x-rays and MRI be obtained and that we have this case first reviewed directly by a Neurosurgeon, then an Infectious Disease Expert and finally by an Orthopedic Surgeon with spinal surgery expertise.