Nursing Sample Case

Intra-venous site developing thrombophlebitis, and it causing Reflex Sympathetic Dystrophy (R.S.D.)

This patient had a long history of recurrent diverticulitis (infection of weak out-pouchings of the large intestine), that previously was correctly treated with antibiotics. But on 8/27 his pain was much worse and he was properly hospitalized, fed only by intra-venous fluids and after CT Scan confirmation of significant pathology that did not resolve with antibiotic therapy, surgery was indicated.

His sigmoid colon (23 centimeters: 10 inches of the left side of the large intestine) was grossly diseased (as confirmed by the Pathologist in his report) and was surgically removed (resected) by Dr. #1 on 9/1. The surgery went well and that part of his care was acceptable. The operative site healed and on 9/8 he went home.

His post-operative surgical office care also was acceptable. On 10/15 he was referred back to his family doctor concerning the problem with his left hand. The Surgeon met the standard of care (but see below).

Now, I will focus on the intra-venous (I.V.) problem in the hospital. It is generally accepted that an intra-venous needle or catheter should be removed and a new one inserted by 48 hours and definitely by 72 hours. The longer it remains in place, the greater there is a risk of serious infection (sepsis: germs spreading from that site throughout the body with a high mortality rate). If there is any problem with an I.V. site (leaking, redness and red streaks: consistent with vein infection, thrombophlebitis and lumps or "cords" in the vein: clotted blood), it should be immediately removed.

Furthermore, this patient had a football injury as a child and had his spleen removed. That increased his risk of infection, and would require even more diligence concerning I.V. site problems.
The first mention in the nurses notes of an I.V. is on 8/27 at 0325 (3:25 a.m.) and it was in his left forearm. At 1545 it was running (infusing) without difficulty. At 2340 there was no abnormality.

On 8/30 at 2400 that I.V. was discontinued (I.V. D/c'd) and a new one place in his right hand. This left forearm I.V. was in place for almost three days. Warm compresses were applied to the old site for 1/2 hour and a heating (K) pad was ordered.

The patient's daughter claimed that "shortly after his surgery, I noticed that his left arm was very edematous (swollen) and I asked a Nurse to change his I.V. Many hours later a third shift nurse did change the I.V." This is not consistent with the medical records.

On 8/30 at 0500 the nursing record says: "K pad (heating pad) to (L) arm applied to site of old infiltrate." Intra-venous needles and catheters (tubes) do frequently puncture the wall of the vein with the intra-venous fluid leaking into the flesh. The use of a heating pad is the standard of care. The changing of the I.V. location and use of the "K pad to old I.V. site" is also noted on the "Medical Treatments /Nursing Interventions" record signed by Nurse #1. At 1600 (4 p.m.) the new I.V. was "infusing without difficulty."

On 8/31 at 2400 - 0100 the nursing notes state: "Patient keeps K pad on abdomen instead of Left Forearm (LFA) old I.V. site - old infiltrated area is very hard and warm - c/o soreness and streaking up forearm noted. Warm moist compress applied to arm for 10 minutes while patient watching TV Patient verbalizes plan for O.R. (operating room) Wednesday."

At 0800 the nurse noted: "Old I.V. site to LFA remains red in color with edema (swelling) and small bump noted to old insertion site."

All this time, from 8/27 through 8/31, he was receiving potent intravenous antibiotics Flagyl (metronidazole) 500 mg. every 6 hours, and Mefoxin 2 grams every 6 hours, both by I.V. That would also be effective treatment for any infection in his arm.

On 9/1 at 0920 he went to the operating room. The Anesthesia record says that an I.V. was present on the "left" and a Right I.V. was also started. The recovery room nurse's record at 1215 notes: "I.V. going into Right hand and right inner forearm without redness or swelling."

Obviously, the Anesthesia record is in error when it said left instead of right, since that is where the nurses before surgery had noted it was located a few times. At 1220 the right hand I.V. was "HL" which is Heparin (anti-coagulant) solution "lock" to keep it from clotting when not in use.
On 9/3 at 0410 "I.V. site right wrist leaking around insertion site. I.V. dc'd "and a new one was started in his "left hand without difficulty."

On 9/3 at 2110 "I.V. site red." The left hand I.V. was discontinued and a new I.V. was started in his right hand.

On 9/5 "I.V. site right under forearm without abnormality, at 2400 and at 1600 that I.V. in his right forearm "site without redness/edema."

The I.V.'s were maintained until his discharge date on 9/8 and at 1740 that I.V. was discontinued and "site without redness/edema. Dressing applied.

According to the nurses notes, the I.V. that caused the problem was inserted on 8/27 at 0325 and when there was a problem it was removed on 8/30 at 2400 and warm compresses and a heating pad used thereafter (except the patient put it on his abdomen). After a few days, there were no complaints and no mention of any problem persisting involving his left forearm.

The Surgeon did not have to address that problem since the nurses were doing the correct care, and he was already receiving two intra-venous antibiotics (for his diverticulitis) that would treat this problem with his arm.

Reflex Sympathetic Dystrophy (RSD) is a bizarre and very uncommon reaction of the sympathetic nervous system to any injury that can cause uncontrollable pain and disability.

On 9/24 he told the Surgeon "still has tingling sensation." The statement of facts notes that the patient said to the Surgeon he could not go to work because he could not move four fingers or can not stand anyone to touch his left arm or hand. He could not even hold a cup and certainly not a large window in his job installing them. Based on the facts in that note by the family, the surgeon should have referred the patient, without any delay to a Neurologist, or a M.D. specializing in Physical Medicine and Rehabilitation. That symptom complex, coming three weeks after the I.V. problem is consistent with early R.S.D., and the earlier aggressive therapy is begun, the better the chance for cure.

On 10/8 the Surgeon noted "continues to have tingling left fifth finger." The Surgeon did nothing but the family said he saw his own doctor (#2) on 10/5. On 10/15 the Surgeon noted that the patient was to call that same private doctor. Therefore, this is a 2-week delay, by the Surgeon because the patient already saw his own doctor for that problem. And on 10/19 the Surgeon noted that the patient was contacted about getting an
appointment with his own doctor. If he saw that doctor on 10/5, why was he referred to him by the Surgeon on 10/15 and on 10/19?

The HMO was negligent for denying and canceling the visits to the Neurologist.

On 10/21 he saw his private doctor (#2) who noted the patient "reports he is weak in the left 4th and 5th fingers." He also had some paresthesias (tingling). His physical examination noted: "left hand with no clear evidence of inflammation or swelling. Slight weakness on grip strength testing." He concluded: "Presumed peripheral nerve injury left arm." There was no finding of severe pain or pain to touch as noted in the "statement of facts." He ordered tests.

The EMG (electro-myogram) and NCV (nerve conduction velocity) studies were done on 10/27, and there were abnormalities involving the median and ulnar nerves.

The HMO should not have negligently cancelled his appointments with Dr. #3, a Neurosurgeon on 11/15 and with Dr. #4, a second Neurosurgeon on 11/16.

On 11/16 he saw Dr. #5, an Orthopedic Surgeon, who noted "some significant paresthesias in the ulnar nerve distribution on the left hand. His ring, and especially his little finger, are very sensitive. The hypothenar eminence (little finger side of the palm) is very sensitive. Having trouble fully extending his fingers. Very tender around the elbow. Even pain going up toward the neck…" He wanted the patient to see a hand surgeon without delay.

It was obvious by 11/16 that he was developing a more severe case of RSD. Four weeks later he saw Dr. #6, a Hand Surgeon and diagnosed "acute reflex sympathetic dystrophy." The fingers were "hypersensitive" and now there also was "redness" consistent with overt R.S.D.

Since there were no trophic changes (loss of flesh) he felt that "he is still in the early phase and may do well with medication and cervical sympathetic blocks (a local anesthetic injected into the neck into the sympathetic nerve complexes)."

On 12/29 he noted the HMO approved him to see Dr. #7; a 6 week delay. There should have been no delay. He was seen on 1/3 and the patient rated his pain as "9" on a scale of 0-10. Also "he has pain, paresthesia, areas of numbness, change in temperature, swelling, and stiffness. Dysethesisia is almost unbearable, to the point where no one can touch his left hand." Finger motion was limited, there was twitching (fibrillation) of his fifth finger and side of hand, and it was slightly warm to touch. He noted the earlier abnormal EMG
and NCV study of 10/27. Although his official consultation note was for 1/3, it was
dictated on 1/1 and typed on 1/3 and the first stellate ganglion block was on 12/30.

By 1/13 he had 30% improvement. I have no further information on his condition. He
was properly prescribed medication (Amitriptyline and Neurontin) as well as a TENS
(nerve stimulator) to control his pain and to try to reverse his condition, by Dr. #7. The
care by Dr. #7 was good.

A MRI of his cervical spine was not pathologic for his left side.

Obviously, there are differences in the "facts" between the family and the detailed Nurses
notes. If there was any problem with the I.V., it should have been removed without any
delay. The longer it remains, the greater the inflammation and risk for R.S.D.

When he saw his Surgeon and private doctor, there were no overt signs of R.S.D., but
since the pain persisted for weeks after surgery, he should have seen a Specialist, and the
HMO was negligent in canceling those visits.

Why was there a negligent six-week delay from 11/16 until 12/30. On 11/16 it was
obvious that he had developed acute changes of R.S.D. and the earlier the therapy, the
better the outcome.

-------------------

The problem with the case is that R.S.D. is not always responsive to therapy. If the law in
Ohio is that the negligence has to cause a 51% difference or more, it makes it harder to
obtain supportive testimony.

It is necessary to clarify the issue of the I.V. problem before it was removed, and why
there was a 6-week delay before Dr. #7 saw the patient.

What is his current condition?

If he is disabled or in significant pain, I would suggest that you authorize us to have these
records reviewed by Experts in Neurology, Pain Control, and/or Physical Medicine and
Rehabilitation, Infectious Disease, as well as Nursing, in that order.