INSIDE AANA
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Inside AANA Evolves

by Ronald P. Karzel, MD

As we have discussed in previous newsletters, we are beginning the process of making Inside AANA more educational and hopefully more relevant to your practices. In addition to the usual articles, this newsletter features several new categories of contributions. Members of the Communications Committee have highlighted some of the most interesting papers from the recent AANA annual meeting. We have included two subject articles by Drs. St. Pierre and Labbe. Our ACL survey from the previous newsletter elicited a large response, and the results are summarized. We also will be featuring some of the best Pearls we have received. In this issue, we are reprinting Dr. Alexander A. Sapega's well-reasoned pearl about the need for DVT prophylaxis. In the near future, we will be sending you our first e-mail survey as a follow-up to this pearl to poll the membership about their current practices with regards to DVT prophylaxis. Please take a few minutes to respond and ensure that your opinions are included. In the future, we will add additional articles including ask the expert columns. We hope you are as excited about these changes as we are. This is your newsletter, and we welcome any feedback. Any topics you would like to see included in future newsletters are also welcomed. Please send any comments or suggestions to me at rkarzel@scoi.com. Thank you for your help and support.

Featured Pearls

A DVT following a knee arthroscopy is rare but potentially devastating. Routine prophylaxis is controversial. We are presenting a Best of Pearls submission by Alexander Sapega, MD that nicely summarizes the issues and presents the author's approach to this problem. We hope to stimulate discussion on this subject and will be e-mailing a survey to the membership to find out what all of us are currently doing in our own practices. We will publish the results in our next newsletter. Thank you in advance for your responses. If you would like to review more Pearls, go the to Members Only section of the AANA website at aana.org.

Should DVT Prophylaxis Be Routine For Knee Arthroscopy?

by Alexander A. Sapega, MD

After receiving your most recent request letter, I thought long and hard as to whether I had any technical "pearls" to offer my fellow Arthroscopy Association members. I decided to submit the attached patient education narrative concerning DVT prophylaxis for your consideration.

Several years ago, I happened to hear about two separate cases of fatal pulmonary embolism following selective knee arthroscopy, both of which occurred right here in the Delaware Valley. This came only one year after a healthy 16 year old patient of mine suffered a fortunately non fatal (but very scary) pulmonary embolism following a routine knee arthroscopy. A subsequent hematological work-up demonstrated no evidence of any genetic or other abnormality in the young fellow's blood coagulation system. Taken together, these events prompted me to do some reading on the matter of venous thromboembolic complications following arthroscopic surgery, and I found the statistics published in the literature to be uncomfortably intimidating.

While DVT prophylaxis with a low molecular weight heparin (LMWH) agent has not yet become a widespread standard of care after routine arthroscopy, I became convinced that even young, healthy pre-surgical patients should at least be well educated about the potential for venous thromboembolic complications following arthroscopic surgery, and be told that there is a relatively safe prophylactic agent that could be made available to them if they were so inclined. At first, I tried doing all of the teaching and explaining verbally, face-to-face for each pre-operative patient. This became cumbersome, so I decided to draft a patient education hand-out that I could give to each pre-operative patient after introducing the subject verbally to them during the course of my normal informed consent discussion. Attached is my patient education narrative, which speaks for itself. I have found it to be a very useful tool in my practice, ever since implementing it. My current LMWH agent of choice is Lovenox.

I encourage my patients to take the narrative home and read it over carefully, discuss it with family and/or their PCP, and then make their decision as to whether or not they wish to use a DVT prophylaxis agent such as Lovenox. It is printed as a write-through form, so when completed the patient is given the top copy and the write-through is kept in their chart. Thus far, approximately 90% of my pre-operative patients have elected to prophylax after reading this narrative, and I have not had a single DVT complication in any patient who has. The only Lovenox related complication any of my patients have experienced has been one large hemarthrosis, which was easily handled by way of joint aspiration. This occurred in a patient who administered his first injection earlier than his post-operative instructions had specified.

Some pre-op patients are initially intimidated by the idea of self-administering a subcutaneous injection. I simply point out to them that millions of diabetics do this more than once per day for most of their lives, and that usually resolves the issue. I provide my patients who do wish to use Lovenox an instructional guide as well as a teaching kit supplied by the manufacturer, which includes either a DVD or videotape demonstrating the self-injection procedure. Thus far, I have had almost no problems with insurance carriers covering prescriptions for Lovenox used for post-arthroscopy DVT prophylaxis. A few insurers have questioned my prescription in the setting of a mere arthroscopy, but none have denied coverage after I have provided them a copy of my patient education narrative, as well as a pre-prepared medical indications letter which my staff keeps at the ready.

A year or so ago, a post-op patient of mine came into the office and profusely thanked me for recommending that he use Lovenox after his recent arthroscopy. Curious, I asked him why he was now thanking me in this energetic fashion. He told me that he had just learned that a teenage niece of his, a healthy high school cheerleader, had become afflicted with a pulmonary embolus and died shortly after an elective arthroscopy. He said that his second reaction when he heard about this family tragedy was to thank God that I had told him about the risk of DVT before his surgery and had offered him a prophylactic agent for protection. The man practically kissed my feet! For me, this settled the question once and for all as to whether I was being too cautious in offering my arthroscopy patients DVT prophylaxis as part of their post-op regimen. While this contribution might not be considered a "technical" pearl, perhaps there is a pearl of "wisdom" in it, as you referenced in your letter.

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UNDERSTANDING THROMBOEMBOLIC (BLOOD CLOT) COMPLICATIONS THAT CAN FOLLOW ARTHROSCOPIC OR RELATED KNEE SURGERY, AND WHAT CAN BE DONE TO HELP PREVENT THEM

Blood clots in the veins of the lower extremities can and do periodically occur following lower extremity injury and/or surgery. Just about anything that slows someone down significantly and restricts both body movement and use of the lower extremities can increase the likelihood of developing a blood clot in the deep leg veins. A few of these clots break free and migrate up to the lung, at which point the condition becomes life-threatening and is referred to as a "pulmonary embolism". On occasion, even just prolonged sitting during a long distance airplane flight is enough to cause a blood clot to form in some people's legs. One of the most common medical emergencies at international airports today is a blood clot in the lung of a trans-oceanic flight passenger. Even though injuries as minor as an ankle sprain have rarely been known to cause death through the formation of a lower extremity blood clot that migrated to the lung, pulmonary embolism is more frequently encountered following more severe injuries and/or surgical procedures.

Every patient who undergoes lower extremity surgery is at some degree of risk for thromboembolic (blood clot) complications. The more involved the surgery, and the older and/or more overweight the patient, the more likely that this complication will be encountered. It has been well established that hip fracture patients and patients who have undergone either total hip or knee replacement surgery are at a high enough risk for thromboembolic complications that prophylactic (preventive) anti-coagulation (blood thinning) treatment is routinely advisable after surgery, despite the risks associated with anti-coagulation. Because the administration of blood-thinning medication shortly following surgery can cause adverse body reactions, excessive bleeding and bleeding-related complications, which can occasionally be extremely serious in and of themselves, prophylactic anti-coagulation has traditionally been employed only after high-risk procedures such as those mentioned above, particularly in elderly patients.

In recent years, however, clinical research studies have determined that even following less involved procedures such as outpatient knee arthroscopy, the incidence of one or more deep vein clots forming in patients' legs is anywhere from 3 to 18%, within the first few weeks following surgery. It is also important for patients to know that blood clots do not always manifest themselves by causing symptoms. Approximately 40% of individuals with deep vein blood clots detected on tests showed no outward signs or symptoms that any clots were present. Of even greater concern is that one clinical study has indicated that approximately 9% of knee arthroscopy patients were determined to have evidence of at least one blood clot having migrated to their lung within five weeks following arthroscopic surgery, yet almost all of these patients demonstrated no signs or symptoms. This does not mean that these patients were not "at risk" for lung damage or even death, however.

In the United States, it is not yet the accepted "standard of care" to routinely administer blood-thinning anti-coagulants to all knee arthroscopy patients after surgery. Unless an allergy to aspirin exists, most patients today are just encouraged to take an aspirin a day for a mild blood-thinning effect and/or wear elastic stockings for a few weeks after surgery. Aspirin treatment is inexpensive and rarely associated with any excessive post-operative bleeding complications or serious adverse reactions. However, given the apparent frequency with which blood clots can and do form in the legs of post-arthroscopy patients, with some of those blood clots migrating to the lung, a few surgeons are now recommending routine post-arthroscopy, prophylactic anti-coagulation. We believe that it is important for our patients to understand: A) what can be done to reduce the risk of thromboembolic post-surgical complications through the use of anti-coagulant medication; and B) the risks of anti-coagulation treatment.

A more effective (as compared with aspirin) blood-thinning treatment that only infrequently causes excessive post-operative bleeding complications is the daily administration (usually for one to two weeks) of a prescription blood-thinning medication (referred to as a "low molecular weight heparin") by way of self-administered, subcutaneous (beneath the skin) injection. Prophylaxis with such medication is relatively but not completely safe, and has been shown to significantly reduce (usually by at least one half) the risk of post-operative blood clots forming in the lower extremities. The risks posed by post-operative anti-coagulation treatment include infrequent excess bleeding at the operative site, bleeding at other sites such as a G.I. ulcer or epidural/spinal anesthetic puncture sites (which can cause permanent lower body paralysis) and adverse medication reactions including a dangerously low blood platelet count. Spontaneous epidural bleeding has even been known to occur (rarely), with dire consequences. The use of anti-coagulant medication will also temporarily disallow the use many common anti-inflammatory medications (Advil, Ibuprofen, Aleve, etc.) due to their platelet inhibiting effects.

Patients who meet the following criteria should generally not receive anti-coagulation treatment:

* Any bleeding disorder
* Allergy to pork or heparin
* History of hemorrhagic stroke
* History of ulcerative G.I. disease
* Taking platelet inhibitor medications
* Proliferative retinopathy
* Prosthetic heart valve in place
* Abnormally low platelet count
* History of reduced platelet count in response to heparin

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UNDERSTANDING THROMBOEMBOLIC (BLOOD CLOT) COMPLICATIONS THAT CAN FOLLOW ARTHROSCOPIC OR RELATED KNEE SURGERY, AND WHAT CAN BE DONE TO HELP PREVENT THEM

While it is often difficult to say which is the greater overall risk (post-operative blood clots in the leg veins versus excessive bleeding and/or other potential complications due to the administration of prophylactic blood thinners) in any given patient, in the case of knee arthroscopy we believe that the greatest life-threatening risk is that associated with a blood clot that migrates to your lung. At the present time we tend to favor the use of injectable blood thinners following arthroscopic knee surgery, unless there is a specific medical reason to avoid it. If you do not meet any of the above criteria for avoiding anti-coagulation treatment and wish to take the precaution of giving yourself blood-thinning medication injections after surgery, we will be glad to either supply you with the medication and teach you how to administer it or provide you with a prescription for the medication and a teaching kit. To help you decide, it may be useful to know that healthy patients under age 35, with no history of blood clotting problems and who do not smoke or take birth control pills, who are not overweight and who are not undergoing lengthy surgical procedures such as ACL reconstruction, ligament repairs, cartilage grafting or synovectomy, are generally considered to be in a "low" risk category for blood clot complications. Most other patients can be considered in a "medium" risk category, unless they have one or more specific positive risk factors for blood clot formation such as: age over 50, a prior personal or family history for blood clot problems, use of birth control pills, smoking, obesity, and estrogen replacement therapy, among others. Such factors will usually place someone in the "high" risk category, depending upon individual circumstances. (Consultation with a hematologist is recommended for complex cases.)

Because prophylactic anti-coagulation treatment is not yet considered "standard care" following a routine surgical knee arthroscopy, (except in patients who have an established history of excessive blood clotting and related complications), your medical insurance carrier may not cover the cost, which is considerable (as high as five hundred dollars). Your pharmacy plan may or may not cover the dispensation of such an expensive medication for prophylactic use following routine knee arthroscopy. If insurance coverage is not available, you must decide for yourself whether or not you believe it will be worth the personal expense of undergoing prophylactic treatment following knee arthroscopy, when you are not at the same degree of risk for serious blood clot related problems as are hip fracture and total joint replacement patients. We all take risks on a regular basis in our daily lives, and are sometimes called upon to make considered decisions concerning those risks. This is one of those times. The purpose of this narrative is to educate you about the risks that exist both with and without anti-coagulation treatment and give you the opportunity to decide for yourself what action you wish to take concerning those risks. We do not believe that it is appropriate for you to be kept in the dark about these risks and have us decide what chances you will and will not take with your health and well being. Our current "bottom line" opinion is that you will be at lower risk for life-threatening complications with the injectable blood thinner treatment than without it, which is why we recommend that you consider it.

If you are interested in receiving prophylactic blood-thinning treatment shortly following surgery, or are at least interested in learning more about it and determining whether or not insurance coverage is available, please check the appropriate box below and provide your signature at the bottom of this page. If, after reading this narrative, you wish to proceed no further relative to post-operative blood clot prophylaxis by way of injectable medication, please so indicate by checking the appropriate box and signing below. Please ask us any questions that you may have before making your choice. Thank you for your attention and in any case, we hope that your surgery and post-operative course go smoothly and uneventfully.

o I am interested in using self-injected, blood-thinning medication after my upcoming surgery, whether or not I will have to pay for this myself.

o I am interested in using self-injected, blood-thinning medication after my upcoming surgery only if insurance coverage is available to pay for it.

o Having read the information above, I have decided that I do not wish to pursue the use of post-operative, blood-thinning medication to reduce the chance of blood clot-related complications following surgery. Unless I have a medical reason that I cannot take a daily aspirin following surgery, such as an allergy to aspirin, I will take one aspirin (not Tylenol) per day for the first several weeks following surgery as a simpler and far less expensive (but also significantly less effective) means of reducing my risk of blood clot problems.

I have read the above, and have received and read the color booklet entitled "Deep Vein Thrombosis".

12/04 Signature: _____ Date: _____