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Arthroscopy for Arthritis-Related Knee Pain: Questions Remain

UTILITY OF ARTHROSCOPIC SURGERY FOR OSTEOARTHRITIS RELATED KNEE PAIN

Despite previous evidence to suggest that arthroscopic surgery does not improve symptoms associated with osteoarthritis of the knee, the procedure continues to be a common treatment for arthritis. Now, new data is backing up data from past research on arthroscopy. Going forward, how will this development impact practice?

You are listening to Reach MD, The Channel for Medical Professionals. Welcome to the Clinician's Roundtable. I am your host, Dr. Mark Nolan Hill, Professor of Surgery and Practicing General Surgeon and our guest is Dr. David Felson, Professor of Medicine and Epidemiology at the Boston University School of Medicine and Public Health.

DR. MARK NOLAN HILL:

Welcome Dr. Felson.

DR. DAVID FELSON:

Thanks.

DR. MARK NOLAN HILL:

Dr. Felson, the results of the study suggest that arthroscopy may not really be the panacea in addressing arthritis of the knee. So, how does surgery compare to a regimen of physical therapy and medication?

DR. DAVID FELSON:

Well, surgery doesn't add anything to the efficacy of medication and physical therapy. Those other modalities really ought to be the main stay of treatment for knee osteoarthritis, not arthroscopic surgery at any rate.

DR. MARK NOLAN HILL:

Well, give us some history on how arthroscopic surgery began and what they did in the knee arthroscopically.

DR. DAVID FELSON:

Well, for many years, orthopedists have gone into the knee and trimmed around the edges where things were torn, extruding, or little areas needed to be shaped down and smoothed, and in addition, the surgeons would often lavage the joint with some saline or other material in order to remove what might be bad humerus or degradation products of the joint, thinking that that might help. That was done in thousands, perhaps even hundred of thousands of patients with knee arthritis over the years and 2 trials have now shown that it really is not effective.

DR. MARK NOLAN HILL:

What about the clinical results they had anecdotally from each of their patients? Do the patients generally improve from their procedure?

DR. DAVID FELSON:

Well, it depends on who you talk to and how that outcome was measured. Many surgeons have insisted that their patients felt better, but when those outcomes were quantified in a prospective fashion, often times, patient's improved transiently and then after a month or two would be back to where they were prior to having any arthroscopy.

DR. MARK NOLAN HILL:

Now, if you are think about this from a common horse sense perspective, you go into a joint, it's got rough edges, it has debris. You smooth it out, you lavage it, you make the surfaces look nicer. You would think just that this would help, why doesn't it help at all?

DR. DAVID FELSON:

It doesn't help because osteoarthritis is mechanically driven by and large. It is a consequence area of the joint being excessively loaded by dynamics that really are outside the joint, within the joint environment usually. Things like malalignment and the failure of muscle coordination to smoothly coordinate excursion of joints. The reason arthroscopy works only transiently is that the process of osteoarthritis is one driven by pathology in the mechanics of the joint, so that the joint environment is really aberrant. There is a malalignment often across the joint. There is a failure of smooth excursion of muscles across the joint when the joint is used and those factors are changed by anything the arthroscopist does and they reassert themselves, as the primary cause of problems after the arthroscopy is over. So, while that smoothing process and the lavage, help may be for some days or even a few weeks the process that drove the pathology recurs and the pathology subsequently recurs leading to pain and that's why the arthroscopy really does not have long-term beneficial effects.

DR. MARK NOLAN HILL:

Well, what specifically is the pathogenesis for the pain in a knee joint with osteoarthritis?

DR. DAVID FELSON:

Well, no one is entirely sure what the pathogenesis for pain is, although we currently think that there are several different structures where pathology in the structures is the source of pain or generates the pain. One of them is the synovium, which becomes inflamed, at least modestly in many patients with osteoarthritis and can cause pain and we have longitudinal data from studies now that suggests that synovium actually changes and becomes more inflamed when people get pain and becomes less inflamed when the pain remits or gets a little bit better. Other lesions in the joint such as lesions in the bone marrow where the bone marrow may get damaged by that excess loading and that damage may create some kind of process of inflammation or remodeling within the bone. Those are also associated with development of pain and osteoarthritis because the loading of the bone is what seems to cause those bone marrow lesions, it wouldn't be expected, that any kind of arthroscopic intervention would affect that. While the smoothing of the joint and getting rid of detritus might relieve the synovium's need to ingest all the junk that's present in osteoarthritic synovial fluid, all that junk and all the detritus recurs as the joint damage recurs. Therefore, accounting for the fact that arthroscopy might help for a few weeks, but not for much after that.

DR. MARK NOLAN HILL:

What was the reception by the practicing medical community about this data?

DR. DAVID FELSON:

Well, let me clarify first on non-orthopedist on rheumatologist by training. These data confirmed a lot of what we in rheumatology have suspected for a long time because we have seen many patients, who have undergone these procedures and return to us not a whole lot better. I can't speak necessarily to what the orthopedic community felt after seeing this study, although they were already familiar with the earlier arthroscopy study that had shown little effect.

DR. MARK NOLAN HILL:

So, in other words in the rheumatology literature, they never were greatly in favor of arthroscopy to do these type of procedures for osteoarthritis?

DR. DAVID FELSON:

No, and in addition, we have done studies of lavage itself for treatment of osteoarthritis and that treatment is also not very long lasting in terms of its efficacy.

DR. MARK NOLAN HILL:

Do you think that there are any patients that would benefit from this procedure?

DR. DAVID FELSON:

Yeah, there probably are some patients that would benefit from the procedure and the editorial that was in the New England Journal accompanying the arthroscopy trial list a couple of examples, one of which was a patient with osteoarthritis, who happened to have a tear in his or her meniscus and a lot of other typical changes of osteoarthritis in the joint and would really not be a good candidate for arthroscopy because the meniscal tear was probably just a function of aging in the osteoarthritic process. On the other hand, there is the patient perhaps older, who has a sudden injury, may be a twisting injury, and immediately thereafter develops pain and swelling in the knee and may not be able to move their knee normally as a consequence of that injury. That sounds like a meniscal tear, and if on MRI, a meniscal tear is present along with may be some mild changes of osteoarthritis that patient might well benefit from an arthroscopy in which the orthopedic surgeon goes in and takes out the part of the meniscus that's torn and cannot be repaired.

DR. MARK NOLAN HILL

If you have just joined us, you are listening to the Clinician's Roundtable on ReachMD XM 157. I am your host, Dr. Mark Nolan Hill, and our guest is Dr. David Felson, Professor of Medicine and Epidemiology at the Boston University School of Medicine and Public Health. We are discussing the utility of arthroscopic surgery for osteoarthritis related knee pain.

Dr. Felson, we recognize that medicare did stop payments on this procedure some years ago. What impact did this have?

DR. DAVID FELSON:

I am honestly not sure. I have heard from different sources that the frequency of arthroscopic surgery for osteoarthritis has gone down, but I must tell you that in my own practice where I see a lot of osteoarthritis patients, I have still seen the operation as a popular one. I have seen patients, who are getting it and I think it is probably not indicated.

DR. MARK NOLAN HILL:

Well, let me ask you a very direct question. Many patients go to their primary care physician and they say, well I have arthritis, I presume, in my knee. Should I go to a rheumatologist or should I go to an orthopedic surgeon? How do you answer that question?

DR. DAVID FELSON:

I think you should go to whatever doctor you feel helps you. Sometimes orthopedists, because they are trained in understanding the biomechanics of osteoarthritis, are more knowledgeable about the disease process than many rheumatologists are, to the extent that you can refer to an orthopedist, who is thoughtful in not only about surgery for osteoarthritis, but about other modalities of treatment like bracing or orthotics and they refer patient to physical therapist. I think that kind of practitioner would be terrific to the extent that rheumatologist have in their diagnostic and treatment repertoire, all those similar skills know about using bracing feel comfortable with interacting with physical therapist and can call on their knowledge of anti-inflammatory treatment, then I think the rheumatologist is the right referral direction. It is hard to know, it depends a little bit on what doctors you have available to you, as the potential places to refer patients.

DR. MARK NOLAN HILL:

Well, let's talk about the patient that comes to your office as a rheumatologist with osteoarthritis of the knee and you talk about a regimen of physical therapy and medication. Could you expand upon that please?

DR. DAVID FELSON:

I tend to start patients off on analgesic medications if they've already failed analgesics and tried them on a regular basis such as high-dose acetaminophen, then I will switch them to an as needed anti-inflammatory medication with the availability of topical nonsteroidals, which we don't have widely available yet in United States, that will become a more popular option for us because topical nonsteroidals have less toxicity to the stomach than do oral versions on the same.

DR. MARK NOLAN HILL:

Tell us about that please.

DR. DAVID FELSON:

Well, they've gone through an FDA approval process, but they haven't been released to the public yet. So, I think they are widely available in Europe and United Kingdom, and they are popular there and I think they will become popular in our country also.

DR. MARK NOLAN HILL:

And these topical anti-inflammatory agents are absorbed satisfactorily through the skin to give better analgesia than orally taken nonsteroidals?

DR. DAVID FELSON:

No. They don't give better analgesia than orally taken nonsteroidals. They give analgesia that's almost equivalent and sometimes a little bit inferior, but the good news about these medications is that they are safer than oral nonsteroidals, at least to the stomach. They really don't cause many stomach troubles, either symptomatically or in terms of erosions or ulcers in the stomach.

DR. MARK NOLAN HILL:

Are there any other medications in your armamentarium for this?

DR. DAVID FELSON:

Yes. I use oral anti-inflammatory medications a lot in my practice and I try to steer patients toward ones that in my view are less dangerous to the stomach or in patients where I am worried about that risk, I couple those medications with gastroprotective agents like proton pump inhibitors or others.

DR. MARK NOLAN HILL:

And what about steroids, do you ever use them?

DR. DAVID FELSON:

Steroids are really, in terms of oral steroids, they are not indicated for the treatment of osteoarthritis, whereas intra-articular steroids are effective for short-term treatment in osteoarthritis of the knee and hip. They are actually quite effective in short-term situations where the patients had a flare. Some patients benefit from intra-articular steroids for a longer term and by short term and long term I think I mean 1 to 2 weeks and then longer term is several months. So, studies have suggested that the average benefit for intra-articular steroids is about 2 weeks and then after that patients have no more benefit than if they gotten a placebo injection.

DR. MARK NOLAN HILL:

What kind of physical therapy regimen do you use for these patients?

DR. DAVID FELSON:

It depends on what their problem is. If they have knee problems and it's primarily in the patella or patellofemoral disease giving them problems going up and down stairs or sitting for a prolonged period of time, I will work with them on quadriceps strengthening exercises and may prescribe for them bracing of the patella or even taping of the patella, and I will refer to physical therapist, who can also provide those treatments and teach the patients how to use them at home.

DR. MARK NOLAN HILL:

I want to thank our guest, Dr. David Felson. We have been discussing the utility of arthroscopic surgery for osteoarthritis-related knee pain.

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