Laparoscopic Spectral Analysis

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Douglas E. Ott, MD, MBA: “This is Douglas E. Ott from Macon, Georgia at the International Human Reproductive meeting with Dr. Larry Demco from Calgary, Canada for OBGYN.net. Larry, I understand from discussions today that there’s some new technology that’s available laparoscopically to help diagnose things in the pelvis that we haven’t seen before. Could you explain that to us?”

Larry Demco, MD: “Yes, pelvic pain has really been a complexing problem for most physicians. We were always taught that we could adequately do a history and physical examination and lead to a laparoscopy as the initial approach for pelvic pain. Most often or not, we see diseases such as endometriosis or adhesions but we were never able to distinguish what we were seeing was actually causing the pain. With recent developments, patients have now been able to be kept awake and were really instrumental in bridging the gap from what we saw and heard the patient complain about in the office and what we saw at laparoscopy. Pain mapping and conscious sedation laparoscopy has really shed some new light. We would see lesions of endometriosis, the classic black lesions and now the newer ones seen are red or clear lesions, and we’ve traditionally just treated the black lesion. Patients who were awake told us the black lesions really weren’t where all the pain was; it was somewhere distant. It actually went quite a ways from the lesion out onto the normal peritoneum, and as a result, when the physician would be looking at this and trying to treat it he would treat what he saw. This resulted in a poor and very high recurrence rate for patients waking up saying, “What’d you do, doc? You didn’t touch anything.” With the patient being awake we are then able to actually treat according to the patient’s guidance. This was fraught with some difficulties because it was very highly technical work being able to keep a patient awake, and it required certain skills and communicative skills that not all physicians have so they had a lot of difficulties with it. This was mainly in certain research areas and in pain clinics that were very specialized in dealing with pain and not to the common everyday gynecologist seeing the 40% of patients that enter their offices with pelvic pain. What has been recently developed is a new system, which actually uses less light than what we’ve used before. Not so white light contains many colors of the spectrum - blue, red, and green. We’re finding out that these lesions actually can show up. When patients were stained when they were in patient assisted laparoscopy and awake, these areas looked totally normal. We now are able to see the endometriosis under the influence of a blue light that we couldn’t see before. This has made endometriosis a much larger disease, and we always thought it was a pinpoint disease. We could touch it with a cautery, we could touch it with a little tiny laser, and we took great care in trying to make sure we didn’t go beyond the border of the lesion because we might damage something. The pain mapping and the laparoscopic spectral analysis have now showed us that this is a very large disease; it extends well beyond what we can see. Now with the blue light we can see what these patients were complaining about. This makes the disease gone from a needlepoint disease to a very large disease, and we have to adapt our techniques of treatment based on the fact that this is a large disease now. So we have to put away our needlepoint cautery and we have to now look at ways of treating that incorporates a large area. Historically, the wide excision was used and had great results as we saw today being presented. We always wondered why excision was a little bit better than electrocautery or laser and it was because they were incorporating a lot of this area of normal peritoneum in order to excise the deeper endometriosis. What we’ve done here is we’ve now seen that with the aid of a blue light and the laparoscopic spectral analysis we can now treat and scan the entire peritoneum for subtle changes of endometriosis that we didn’t see before. We’re now using the argon plasma coagulator; this is very fast and rapid to actually blight the area. It’s much cheaper than a laser system and...
more capable of being used in any average gynecology practice rather than a specific laser. As a result, we can now use a system that’s becoming available to do the laparoscopy and scan for areas of endometriosis, be it subtle or very readily visible. With the argon plasma coagulator we can then vaporize those areas. The only problem or setback with the blue light is if you cause any bleeding this also shows up as blue so we have to be able to treat so that there’s not any blood, and this is why we can’t really excise using the blue light system. We are currently developing a marking system so we could see it under the blue light; determine the borders of where the endometriosis end, mark it, and then you have the opportunity to excise. With excision before, there were no guidelines to tell us where to start our excision or where we should start treatment - it was basically a guess. With the laparoscopic spectral analysis, we finally do have some guidelines to at least give us an idea where to start the treatment, and in early lesions and also in more advanced disease we can actually know where at least start our excision.”

Douglas E. Ott, MD, MBA: “Good, so the take-home message is technology will help us diagnose more accurately and treat our patients better.”

Larry Demco, MD: “Yes, that’s it. Thank you very much.”

Douglas E. Ott, MD, MBA: “Thank you.”

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