It's now a new day! There is now a definition of Acquired Chronic Muscle Spasm.

Pathophysiology of Acquired Chronic Muscle Spasm Revisited

For skeletal muscle it is in the form of SEA, which is both the identifying key blood pressure in systole. Unpublished work by this author demonstrated that if the Spontaneous Electrical Activity (SEA) in non-denervated muscle where its presence why did it happen?

Let's look at the blood supply of the heart, mostly made of muscle, during systolic contraction. Atrial fibrillation. How are they treated? Well some form of anti-arrhythmic is a front line treatment.

Let's looks elsewhere where muscle stays in a state of chronic contraction. Time here to remember how muscle works. Energy is required for muscle to relax. That chronically starved skeletal muscle it has lost structural elements that can be functional duration and, but also the structural elements before it can normalize. Little, if any research, has shown that muscle that sustains chronic ischemia. We have learned that chronically starved skeletal muscle it has lost structural elements that can be recovered with the return of normal blood supply. Ultimately, a medium acting steroid, dexamethasone, was added to improve patient comfort over the first few days following injection as the low pH still had an irritant effect on the tissue.

What then was happening? In most cases a single injection would do the trick if all of the affected muscle was treated. This drug, however, was not in any way a perfect candidate. It was FDA approved and therefore could be "sold" - lack following the FDA guidelines. However, it was fairly unsafe and required a very high pH which was not well tolerated by tissue. Fortunately, Lignocaine also had a pH of 3 and could be mixed with phenoxybenzamine to make the injection more tolerable and had an almost immediate effect on the SEA that we were targeting. This allowed the clinicians to know that all the SEA had been shut off in about 2 hours. If the muscle is adequately "infused" with the medication, there should be no hot spots left to start up spasm of adjacent muscle. Different muscules.

Before getting to treatment modalities for acquired skeletal chronic muscle spasm, it is useful to explain a bit of anatomy to the clinician. Not only is anatomy used as a common language for discussing muscle, this refers to muscle that is not dead but not doing much for the hibernating muscle. This refers to muscle that is not dead but not doing much and histologically it is not normal. It takes time for the muscle to recover not only its function but also its strength. That being said, a single injection has been done on chronically starved skeletal muscle. It would most likely be the case that chronically starved skeletal muscle has lost structural changes that can be regenerated with the rest of normal muscle supply.

But what did happen and what is expected to happen? Keep in mind that we are dealing with injured, starved and ultrastructurally damaged tissue. Its energy capacity is limited and any "flight to health" use of the muscle following the injection will likely put it back into a state of chronic contraction. So not only is the muscle diseased but it is now suffering expected slow road to health. Patients need to be warned of this and may need another injection after a few months.

SUCCESSFUL TREATMENT OF LONGSTANDING CHRONIC MUSCLE SPASM WITH EMG GUIDED CHEMODENERVATION

Regenerative potential to muscle is a long accepted truth accepted by most injury or trauma. So, what is happening that leaves muscle in a state of chronic contraction for months and years with no known or identifiable neurologic etiology?

In short then we have an overuse injury leading to a prolonged "weekend warrior" spasm which by virtue of the marked limitation of blood supply lasts long enough to exhaust the muscle cells energy storage and disrupt the membrane channels causing membrane instability which leads to SEA. This same point muscle. The point being that further enhancing the local blood supply and maintaining the starvation level of blood supply. This is the black hole of muscle function.

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