

STATEMENT OF PURPOSE

Causes of ankle pain are multifactorial, with many signs and symptoms which can be isolated and identified by a thorough physical exam and utilization of supporting diagnostic tools. Less commonly identified is ankle joint pain related to a specific type of medication. In this case study we have identified a case of statin-induced ankle joint arthralgia. Bringing attention to statin-induced ankle joint arthralgia may prove to be a beneficial diagnosis for the foot and ankle physician who is unable to localize a specific cause of ankle joint pain.

LITERATURE REVIEW

From July 1963 to March 2008 there were 294 cases of arthralgia using lipophilic statins and 9 cases of arthropathy identified. Where as for hydrophilic statins there were 75 cases of arthralgia and one case of arthropathy (Campion et al. 2008). A genomewide study was undertaken involving 12,000 participants identifying common variants in SLC01B1 gene that were strongly associated with increased risk of statin induced myopathy (Link et al. 2008). It is estimated that 1.5 million people per year will experience a muscle related adverse event while taking a statin, with 1-3% enrolled in randomized control studies and up to 10-13% of participants enrolled in prospective clinical studies developing myalgia (Sathasivam 2008). Three theories of myopathy include; 1, impaired synthesis of cholesterol which leads to changes in myocyte membranes with subsequent changes in behavior of the membrane 2, deficiency of coenzyme Q10, which could lead to impaired enzyme activity in mitochondria 3, depletion of isoprenoids which in turn affects glutaryl coenzyme A reductase pathway that prevents myofiber apoptosis (Sathasivam 2008). A study was performed comparing 6728 statin users with 6728 nonusers and it was found that statin use was associated with a significant increased risk of non traumatic arthropathies and use related injury (Makris et al. 2018).

CASE STUDY

This is a 60 year old otherwise healthy female who presented with debilitating ankle joint arthralgia secondary to initiation of pravastatin February 2017. She had no history of ankle trauma. The patient was evaluated with a thorough biomechanical exam and serial radiographs with no obvious signs of degenerative joint disease and no relief of symptoms with current treatment regimen consisting of stretching, shoe gear modification, or over-the-counter pain medication. In November 2017, the medication was decreased to half of the dose which incidentally lead to resolution of symptomatic ankle arthralgia. In March 2018, blood analysis demonstrated elevated levels of low density lipoprotein and the patient was increased to full-dose pravastatin. As soon as April 2018, debilitating ankle pain returned without identifiable cause. Repeat radiographs were taken July 2018 with no obvious signs of joint degeneration or injury. Given history of previous resolution, the pravastatin was again discontinued. This subsequently led to a complete resolution of symptoms.

ANALYSIS & DISCUSSION

Ankle arthralgia can be secondary to a variety of causes, but may be difficult to diagnose when there is no obvious source. We present a case study of one patient who suffered debilitating ankle joint pain with the initiation of pravastatin medication. It was found that the patient's pain was completely resolved after taking half the dose and subsequent discontinuation of the medication. Statin induced arthralgia is a rare occurrence which is sparsely reported in literature but should be included in one's differential diagnosis.

IMAGING



Radiographs of ankle, September 2017

CONCLUSION

Statin medications should be on one's differential diagnosis as a source of ankle joint arthralgia when there is no other likely source of pain, or when there is no resolution of ankle pain with current treatment regimen. Supporting literature has determined that there is a direct correlation between the use of statin medications and an association with ankle arthralgia. Care should be taken to weigh risks and benefits of statin use for hyperlipidemia in the setting of symptomatic ankle arthralgia.

REFERENCES

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