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DEPARTMENT OF VETERANS AFFAIRS - VETERANS HEALTH ADMINISTRATION (VHA)
PHARMACY BENEFITS MANAGEMENT SERVICES (PBM), MEDICAL ADVISORY PANEL (MAP), AND
CENTER FOR MEDICATION SAFETY PSCI (VA MEDSAFE)

FLUOROQUINOLONE USE AND THE POTENTIAL FOR TENDINITIS AND TENDON RUPTURE

I. ISSUE

The Food and Drug Administration (FDA) has mandated that the manufacturers of fluoroquinolone agents update their labeling with a boxed warning that highlights an increased risk of tendinitis and tendon rupture in patients receiving fluoroquinolones for systemic use as well as develop a Medication Guide for patients.¹ Tendon rupture may require surgical repair and can be prevented or abated by proper use, patient selection, and monitoring.

II. BACKGROUND

Tendinitis and tendon rupture are known side effects of fluoroquinolone antimicrobial agents. FDA reports receiving continued similar or increased numbers in tendinitis and tendon rupture in patients taking fluoroquinolones from their Adverse Events Reporting System (AERS). The risk increases in patients over 60 years of age, in patients concomitantly taking corticosteroid therapy, and in recipients of kidney, heart, or lung transplants. The tendon rupture can occur during or after completion of fluoroquinolone use, sometimes occurring up to several months after the last dose. Tendinitis and tendon rupture most often involves the Achilles tendon, but has also been reported in the rotator cuff (shoulder), hand, biceps, and thumb.

III. DISCUSSION

A large database study associated an increased risk of tendon disorders or tendon rupture with exposure to fluoroquinolones. Based on this population-based case-control study, patients receiving treatment with a fluoroquinolone had about a 4-fold higher risk of Achilles tendon rupture. This study estimated that rupture of the Achilles tendon will occur in 1 out of approximately 6000 persons treated with fluoroquinolones.²

Within the VA system, 218,907 unique patients received a prescription for a fluoroquinolone in FY 2008 (through April 2008). Agents reviewed include ciprofloxacin (131,642 unique patients), moxifloxacin (68,837 unique patients), levofloxacin (18,246 unique patients), ofloxacin (147 unique patients), and norfloxacin (35 unique patients). The VA's spontaneous adverse drug event reporting system, VA ADERS, was queried on July 9, 2008 for fluoroquinolones reported as the primary suspect drug that had a MedDRA dictionary preferred term of tendinitis or tendon rupture. A total of 4 cases matched this query. There was one report in June 2007 for levofloxacin and tendon rupture; one tendonitis report in September 2007 where ciprofloxacin was the primary suspect drug and levofloxacin was the secondary suspect drug; one report in March 2008 for tendonitis and tendon rupture where moxifloxacin was the primary suspect drug and prednisone was the secondary suspect drug; and one report in June 2008 for moxifloxacin and tendonitis.

IV. VA MEDSAFE RECOMMENDATIONS reinforce those of the FDA and include:

- Fluoroquinolone use should be discontinued if the patient experiences pain or inflammation in a tendon, symptoms which may precede rupture of the tendon.
- Patients should be advised about the possibility of tendon pain, inflammation, or rupture. If such occurs, they should avoid using the affected area if possible, and should promptly contact their healthcare provider and/or seek care.
- Providers should consider the potential benefit and risks to each individual patient before prescribing a fluoroquinolone antimicrobial.
- Fluoroquinolones should only be used for the treatment or prevention of infections that are proven or strongly suspected to be caused by susceptible bacteria.
- Providers should document/report all possible adverse events related to fluoroquinolone use as per the usual protocols used at their VA.
- Further information regarding the fluoroquinolone safety issue can be accessed via the following link:
<http://www.fda.gov/cder/drug/InfoSheets/HCP/fluoroquinolonesHCP.htm>.

V. REFERENCES

1. Food and Drug Administration (FDA) Alert. 07/08/2008. <http://www.fda.gov/cder/drug/InfoSheets/HCP/fluoroquinolonesHCP.htm>
2. Corrao G, Zambon A, Bertu L, Mauri A, Paleari V, Rossi C, Venegoni M. Evidence of tendinitis provoked by fluoroquinolone treatment: a case control study. Drug Safety 2006; 29(10): 889-96.