

**Fatal heart rhythms associated with Azithromycin**Muhammad Shahzeb Khan,<sup>1</sup> Faizan Imran Bawany,<sup>2</sup> Mohammad Hussham<sup>3</sup>

Madam, Azithromycin is a broad spectrum macrolide antibiotic that is widely used to treat bacterial infections. Azithromycin was reported to be generally free of cardiotoxic effects.<sup>1</sup> However, a recent study published in the New England Journal of Medicine concludes that patients who undertook azithromycin therapy had an increased number of cardiovascular deaths, especially sudden cardiac deaths compared with patients who did not take antibiotics or who took other antibiotics.<sup>2</sup> In this study, the researchers at Vanderbilt University examined the records of thousands of patients over a span of fourteen years, and associated azithromycin with a 2.5 times higher risk of mortality from cardiac problems. Wayne Ray, the research leader, expressed his concern that people with underlying heart problems who use azithromycin are at a higher risk.

After the publication of this study, Food and Drug Administration (FDA) also warned the public of the risk posed by the common antibiotic, azithromycin, to the heart. The new warning from FDA stated that the drug can cause abnormal and possibly, fatal heart rhythms. The

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drug is believed to cause changes in the electrical activity of the heart. The FDA also said that patients who have low potassium and magnesium blood levels are especially prone to develop fatal arrhythmias.

Furthermore, the FDA's adverse event reporting system includes 20 cases of torsades de pointes that were associated with azithromycin.<sup>3</sup> Moreover, there have been at least seven reported cases of patients who had normal QT intervals in whom azithromycin caused severe cardiac effects including prolonged QT interval.<sup>4</sup> This means that people who experience irregular heartbeat, dyspnoea and fainting while on azithromycin should seek immediate medical care. It also makes it imperative that healthcare providers should be aware of these side effects resulting in correct diagnosis.

**References**

1. Owens RC Jr, Nolin TD. Antimicrobial-associated QT interval prolongation: points of interest. *Clin Infect Dis* 2006; 43: 1603-11.
2. Ray WA, Murray KT, Hall K, Arbogast PG, Stein CM. Azithromycin and the risk of cardiovascular death. *N Engl J Med* 2012; 366: 1881-90.
3. Poluzzi E, Raschke R, Moretti U, De Ponti F. Drug-induced torsades de pointes: data mining of the public version of the FDA Adverse Event Reporting System (AERS). *Pharmacoepidemiol Drug Saf* 2009; 18: 512-8.
4. Russo V, Puzio G, Siniscalchi N. Azithromycin-induced QT prolongation in elderly patient. *Acta Biomed* 2006; 77: 30-2.