

Date: 01-06-2021



Direct Healthcare Professional Communication

Systemic and inhaled fluoroquinolones Levofloxacin (Levoflox) and Ciprofloxacin (Omacip): warning about new risk of heart valve regurgitation/incompetence.

Dear Healthcare professional,

National Pharmaceutical Industries Co. (SAOC) in agreement with the Saudi Food and Drug Authority (SFDA), would like to inform of the new risk of heart valve regurgitation/incompetence associated with fluoroquinolones for systemic and inhalation use.

Summary

- New data suggests that systemic and inhaled fluoroquinolones may increase the risk of heart valve regurgitation/incompetence.
- In patients at risk for heart valve regurgitation/incompetence, systemic and inhaled fluoroquinolones should only be used after careful benefit-risk assessment and after consideration of other therapeutic options.
- Conditions predisposing to heart valve regurgitation/incompetence include congenital or pre-existing heart valve disease, connective tissue disorders (for example Marfan syndrome or Ehlers-Danlos syndrome), Turner syndrome, Behçet's disease, hypertension, rheumatoid arthritis, and infective endocarditis.
- Patients should be informed of the risk of heart valve regurgitation/incompetence associated with the use of fluoroquinolones and advised to seek immediate medical attention in case of onset of dyspnoea or heart palpitations, or development of oedema of the abdomen or lower extremities.
- Patients should be advised to seek immediate medical attention in case of acute dyspnoea, new onset of heart palpitations, or development of oedema of the abdomen or lower extremities.

Background on the safety concern

Fluoroquinolones are antibiotics approved by the Saudi food and drug Authority for the treatment of certain bacterial infections, including life-threatening ones. Because they can have serious and long-lasting side effects. Fluoroquinolones should only be used after carefully assessing its likely benefits and its risks including that of aortic aneurysm and dissection.

A recent epidemiological study [1] reported an approximately 2-fold increase in the risk of mitral and aortic regurgitation in patients taking systemic fluoroquinolones compared with patients taking other antibiotics (amoxicillin or azithromycin).

Several medically confirmed cases of heart valve regurgitation/incompetence affecting any heart valve have been reported in patients receiving fluoroquinolones with at least possible causal association.

Additionally, a laboratory study [2] reported that exposure to ciprofloxacin led to collagen degradation in aortic myofibroblasts cells donated from patients with aortopathy, including aortic regurgitation. This finding provides insight into how fluoroquinolone-associated degradation of connective tissue may be associated with heart valve regurgitation/incompetence. Collagen degradation has also been postulated for fluoroquinolone-associated disorders of tendons and the aorta.

Factors that increase the risk for heart valve regurgitation include congenital or pre-existing heart valve disease, connective tissue disorders (for example Marfan syndrome or Ehlers-Danlos syndrome), hypertension, Turner syndrome, Behçet's disease, rheumatoid arthritis, and infective endocarditis.

In patients at risk for heart valve regurgitation, systemic fluoroquinolones should only be used after careful benefit-risk assessment and after consideration of other therapeutic treatment options.

Patients should be advised to seek immediate medical attention in case of onset of acute dyspnoea or heart palpitations, or development of oedema of the abdomen or lower extremities.

The product information for fluoroquinolones-containing medicines will be updated accordingly.

List of MAH product:

Active substance	Brand name
Levofloxacin	Levoflox 500
Ciprofloxacin	Omacip 500mg
	Omacip 250mg

Call for reporting for adverse reactions

The National Pharmacovigilance Centre (NPC):

– SFDA Call Center: 19999

– E-mail: npc.drug@sfd.gov.sa

– Website: <https://ade.sfda.gov.sa/>

Company contact point

Name: **Obaid Awad Alqahtani**

Email: o.alqahtani@npioman.com

Phone: **0112780890**

Name of QPPV and the stamp

Obaid Awad Alqahtani



References

[1] Etminan M, Sodhi M, Ganjizadeh-Zavareh S, Carleton B, Kezouh A, Brophy JM. Oral Fluoroquinolones and Risk of Mitral and Aortic Regurgitation. J Am Coll Cardiol. 2019 Sep 17;74(11):1444-1450.

[2] Guzzardi DG, Teng G, Kang S, Geeraert PJ, Pattar SS, Svystonyuk DA, Belke DO, Fedak PWM. Induction of human aortic myofibroblast-mediated extracellular matrix dysregulation: A potential mechanism of fluoroquinolone-associated aortopathy. J Thorac Cardiovasc Surg. 2019 Jan;157(1):109-119.