



Letter to the Editor

Correspondence relating to the paper “Right-sided infective endocarditis: insights into the forgotten valve”

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We appreciated Yanagawa's paper about the still poorly understood factors involved in tricuspid valve (TV) infective endocarditis (IE) among injective drugs abusers [1]. Right-sided IE is exceptional in non-drug addicts and in those without implanted devices, since reduced pressure/hematic turbulence/oxygen saturation exerts a protective effect against valvar infections [2].

In TV pathogenesis, a few mechanisms (*valvar damage from injected particulate matter; drug-induced pulmonary hypertension/right-side cardiac turbulence; higher bacterial load; immunological abnormalities with or without HIV infection*) were suggested, although none of them by itself seems to be more convincing than the others [3].

In our opinion, TV susceptibility to IE can be explained by a new approach (*IE triangle*), sharing the complex interplay leading from an uncomplicated bacteraemia to IE [4], as follows:

- left vertex of the triangle (*modulating factors*): 30–90% of intravenous drug abusers are affected by immunodeficiency virus infection. When immune system ability to fight infectious disease is compromised, IE susceptibility increases [4].
- right point of the triangle (*trigger factor*): it is usually a bacteraemia caused by *Staphylococcus aureus*, which is commonly found on drug injection users' skin and inoculated deeper into the body.

- apex (*anatomical substrate*): TV is the first valve encountered by the inoculated Staphylococci through the route vena → inferior vena cava → cardiac right-side. TV focal thickening/prolapse/regurgitation is significantly higher in drug addicts [5].

Overall, injective drug abusers should be identified as new high-risk subjects for IE antibiotic prophylaxis and included in a periodical follow-up, most of all those with an anomalous TV at their baseline evaluation.

Conflict of interests

The authors report no relationships that could be construed as a conflict of interest.

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