

Silent infective endocarditis with mucocutaneous stigmata, and delay in initiating echocardiography

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Infective endocarditis (IE) without murmurs (silent IE) is an entity fraught with the risk of missed diagnosis. This hazard is attributable to a suboptimal index of suspicion for IE, and, hence, suboptimal workup for IE, when a murmur is absent. This state of affairs was exemplified by anecdotal reports of 15 adult patients (11 male) of mean age 48 years who were characterised by the association of silent IE and mucocutaneous stigmata of IE (table 1),^{1–15} and in whom echocardiography was initiated after a delay of one day to seven months (median seven days)

following documentation of mucocutaneous stigmata. None had 'same day' echocardiography. In addition to mucocutaneous stigmata, nine of the 15 patients also had risk factors for IE, namely, dental caries,^{9,10,12,15} ear piercing,¹¹ post-operative wound infection,³ intravenous drug use,¹³ and cirrhosis of the liver.^{2,6} Three patients had an afebrile presentation.^{2,12,13} Echocardiography disclosed vegetations in 13 patients.^{1–4,6–8,10–15} Eight patients (including four with risk factors for endocarditis) subsequently developed new murmurs.^{1,2,5,6,9,12,14,15} In five of those

Table 1. Clinical features and complications

First author	Symptoms/complications	Pur	Jn	Spl	SCH	Os	Valve	Culprit pathogen
Cecarelli ¹	Meningitis, SMA, SE	Y	N	N	N	N	Mitral	<i>Staph. aureus</i>
Deonarine ²	Cirrhosis, CHF, spondylitis	Y	N	N	N	N	Quadrivalve	<i>Strep. mutans</i>
El Chami ³	CHF, respiratory failure	Y	N	N	N	N	Aortic	<i>Enterococcus faecalis</i>
Yokota ⁴	Mesenteric abscess	Y	N	N	N	N	Mitral	MSSA
Miridjanian ⁵	Fever, myalgia, headache	Y	N	Y	Y	N	Aortic	<i>Moraxella kingae</i>
Mahmoud ⁶	Cirrhosis, CHF, ICE	Y	N	N	N	N	Mitral	<i>Pasteurella multocida</i>
Tiliakes ⁷	Polyarthralgia, ANCA+ve, splenomegaly	Y	N	N	N	N	Aortic	<i>Strep. viridans</i>
Messiaen ⁸	CHF, Gln, ANCA+ve	Y	N	N	N	N	Aortic	Few bacterial colonies
Chukwurah ⁹	Gln, ICE	Y	N	Y	N	N	Aortic	<i>Lactobacillus, Acidophilus</i>
Branch ¹⁰	ICE	N	Y	N	Y	Y	Mitral	<i>Pasteurella multocida</i>
Nah ¹¹	ICE, meningitis, CHF, SE, RE	N	Y	Y	Y	N	Mitral	MRSA
Nichols ¹²	ICE	N	Y	N	N	Y	Mitral	<i>Strep. viridans</i>
Yeung ¹³	ICE, CHF, SMA, SE	N	N	Y	Y	N	Aortic	<i>Serratia marcescens</i>
Ching ¹⁴	ICE	N	N	N	N	Y	Aortic	MSSA
Inoue ¹⁵	CHF, spondylitis, septic arthritis	N	N	N	N	Y	Aortic	MSSA

Key: ANCA+ve = positive for anti-neutrophilic cytoplasmic antibodies; CHF = congestive heart failure; Gln = glomerulonephritis; ICE = intracranial embolism; Jn = Janeway lesions; MRSA = methicillin-resistant *Staphylococcus aureus*; MSSA = methicillin-sensitive *Staphylococcus aureus*; N = No; Os = Ostler's nodules; Pur = purpura; RE = renal embolism; SCH = subconjunctival haemorrhages; SE = splenic embolism; SMA = skeletal muscle abscess; Spl = splinter haemorrhages; Y = Yes

OPINION

cases echocardiography was undertaken after detection of the murmur.^{1,2,9,14,15}

Complications comprised intracranial embolism (ICE, seven cases), congestive heart failure (seven cases), meningitis (two cases), spondylitis (two cases), skeletal muscle abscess (two cases), septic arthritis (one case), mesenteric abscess (one case), splenic embolism (two cases), splenic embolism in association with renal embolism (one case), acute glomerulonephritis (two cases).

Treatment

Valve replacement was undertaken in seven

cases,^{3,8-11,13,15} including three with torrential left ventricular failure attributable to valve cusp perforation.^{3,8,11} One patient had mitral valvuloplasty.¹² Seven patients (including two deaths, both with congestive heart failure and cirrhosis),^{2,6} were managed conservatively.

Comment

Among 54 IE patients with mucocutaneous stigmata, Servy *et al.* identified 18 with no murmurs. Intracranial embolism and extracranial embolism, respectively, were prevalent in 32.8% and 51.7% of patients. Immunological phenomena were

significantly more common in IE patients with mucocutaneous stigmata than in counterparts without those stigmata.¹⁶ The present review takes the characterisation of silent IE further by documenting the cognitive bias that hinders timely investigation of this syndrome ●

Conflicts of interest

None declared.

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