Infective endocarditis (IE) is a disease in which a microorganism colonizes a focus in the heart, producing fever, heart murmur, embolic manifestations, and bacteremia or fungemia. Early diagnosis of this condition is crucial, because devastating complications and death almost invariably result if treatment with antibiotics with or without surgery is not instituted.1

Atopic dermatitis (AD) is a chronic, relapsing eczematous skin disease characterized by pruritus and inflammation and caused by the intervention of various unspecific stimulations and specific allergens. AD is one of the most common skin diseases, affecting up to 20% of children and 1–3% of adults in most countries around the world.2 The cardinal feature of AD is itch, and scratching may account for most of the signs. Colonization by *Staphylococcus (S.) aureus* is commonly observed in the skin lesions of AD patients, and scratching of the pruritic lesions may lead to reiterative bacteremia and endocarditis.3 Some authors have reported a relationship between IE and AD in case reports.3–5

In the study by Fukunaga et al6 in this issue of the Journal, 8 of the 120 patients (6.7%) who underwent cardiovascular surgery showed a positive anti-*S. aureus* culture. In this patient group, the prevalence of IE was significantly higher compared with that in non-AD patients. In this patient group, the prevalence of IE was significantly higher compared with that in non-AD patients. Therefore, it is crucial to recognize the relationship between IE and AD and to carefully evaluate skin lesions and heart status in AD patients. This article provides an overview of the potential relationship between IE and AD. The authors propose a diagnostic algorithm for patients with AD that can help clinicians identify patients with IE and prevent IE-related complications.

**Figure.** Algorithm for treatment of atopic dermatitis. (Adapted with modification from Saeki et al with permission.12)
surgery on cardiopulmonary bypass for IE at a single center also had AD. Although the bacterial spectrum of the causative organisms in their complete series of IE cases and in a nationwide survey of IE in Japan was very similar (streptococci, 45.8% vs. 51.9%, respectively; S. aureus, 17.5% vs. 21.0%, respectively), the frequency of S. aureus was much higher (7/8, 88%) in the IE+AD group. Analysis of the clinical characteristics of IE patients with and without AD showed younger age and higher frequencies of stroke and S. aureus infection in IE patients with AD. All cases of IE+AD, there was preexisting heart valve disease, but no potential risk factors for IE such as dental cavities or oral procedures before the occurrence of IE. This report potentially offers direct evidence of a relationship between AD and IE. They also report excellent results without hospital deaths or recurrent IE in all survivors during a mean follow-up period of 5.3 years. The authors made various efforts to avoid postoperative mediastinitis. The patients received skin care for AD by dermatologists prior to surgery. In terms of surgical approach, either median sternotomy or right thoracotomy was used, based on factors identified in their previous surgical approach, either median sternotomy or right thoracotomy care for AD by dermatologists prior to surgery. In terms of dental cavities or oral procedures before the occurrence of IE.

In terms of more severe AD, because AD patients have a high incidence of staphylococcal colonization of skin lesions. As cardiac surgeons and cardiologists, we should also share interesting data such as those shown in the current study with dermatologists.

### References