

# It has been 30 years since the first alcohol septal ablation for hypertrophic obstructive cardiomyopathy was performed

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Hypertrophic cardiomyopathy affects approximately 1 in 200–500 individuals and is associated with left ventricular outflow tract (LVOT) obstruction in two-thirds of cases [1–3]. In most cases, the obstruction is created by a hypertrophied basal segment of the interventricular septum and systolic anterior motion of the redundant mitral valve. The pressure gradient generated by this mechanism between the left ventricle and the aorta should by definition be greater than 30 mm Hg, but in extreme cases it can be as high as 200 mm Hg. It is clear that a number of adverse outcomes, including heart failure and sudden cardiac death, are associated with such increases in left ventricular afterload.

It has now been 30 years since Dr Ulrich Sigwart came up with the interesting concept of reducing or even eliminating obstruction in the LVOT. He proposed that an alcohol-induced infarction of the interventricular septum at the site of the obstruction could create a local scar with subsequent LVOT widening.

He performed the first transcatheter intervention – now called alcohol septal ablation (ASA) – on a patient with hypertrophic obstructive cardiomyopathy (HOCM) on 19 June 1994, and published the first three of these procedures in *The Lancet* the following year [4].

It is of great interest to medical history how difficult it was to establish this therapeutic approach in the following years and how many immediate and later opponents it had [5–6]. The most common concern was that ASA would lead to heart failure and malignant arrhythmias because of the scar created at the basal part of the interventricular septum [6]. However, neither of these fears materialised in long-term follow-up of patients after ASA [7–8]. On the contrary, 30 years after the first ASA, it has become a routine part of clinical practice and it has been recommended in European and American guidelines for the treatment of the most severe HOCM patients [2–3].

ASA is now performed not only as a single procedure in HOCM patients, but also in some complex cases in patients who are too risky for surgery. This is probably where the major advances in the field have been made during the past 30 years, apart from various technical details of how we perform ASA today.

There has also been progress in the development of medical therapy for HOCM in recent years and myosin in-

hibitors (mavacamten and aficamten) have shown excellent efficacy in short-term follow-up [9]. However, we cannot yet be sure that long-term myosin inhibition will not bring some unpleasant surprises.

Thus, whatever the future role of ASA in HOCM treatment, it is certain that performing the first alcohol-induced infarctions as a treatment of patients with heart disease has been a very interesting concept, and Dr Ulrich Sigwart, who first performed this procedure, has become a true pioneer in the field of interventional cardiology.

## Potential competing interests

The author has completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. No potential conflict of interest related to the content of this manuscript was disclosed.

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