

# DIU Cas Clinique 1

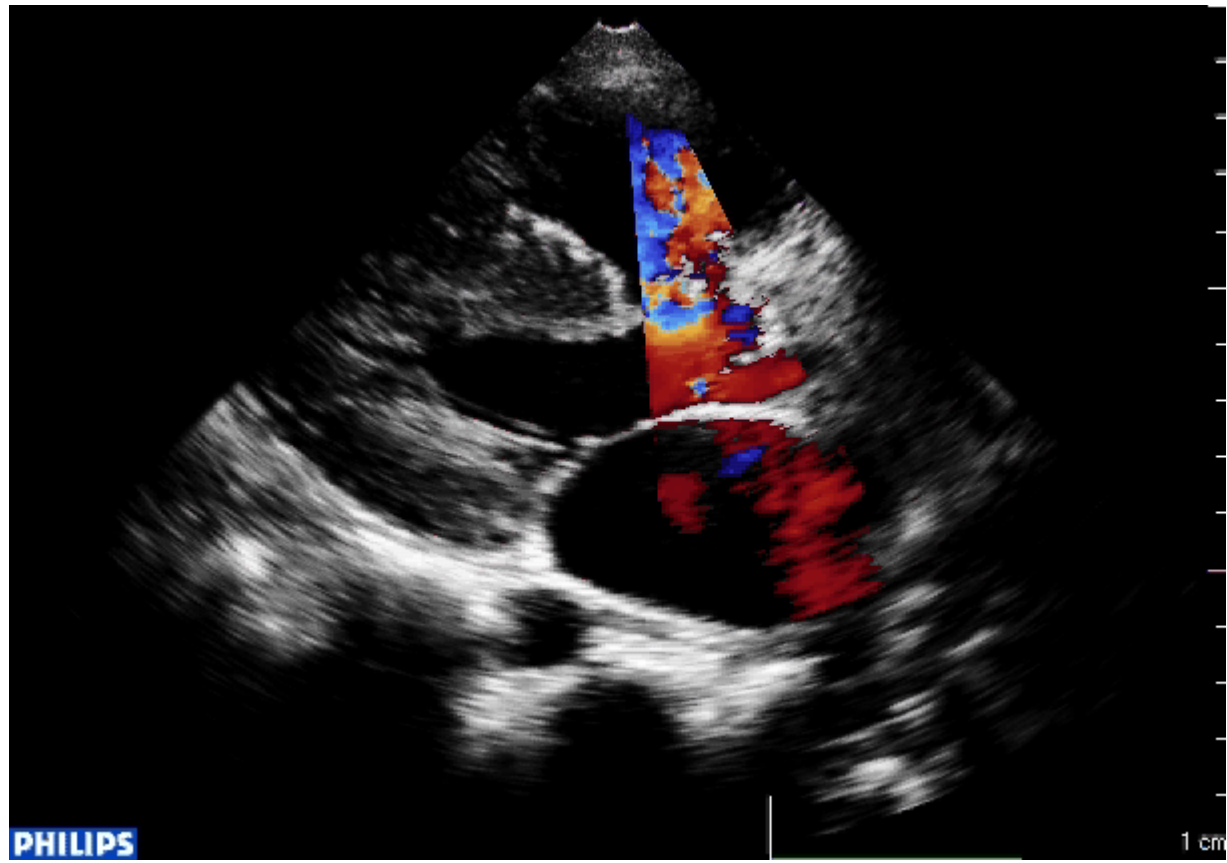
## CIV

Philippe Acar  
Toulouse

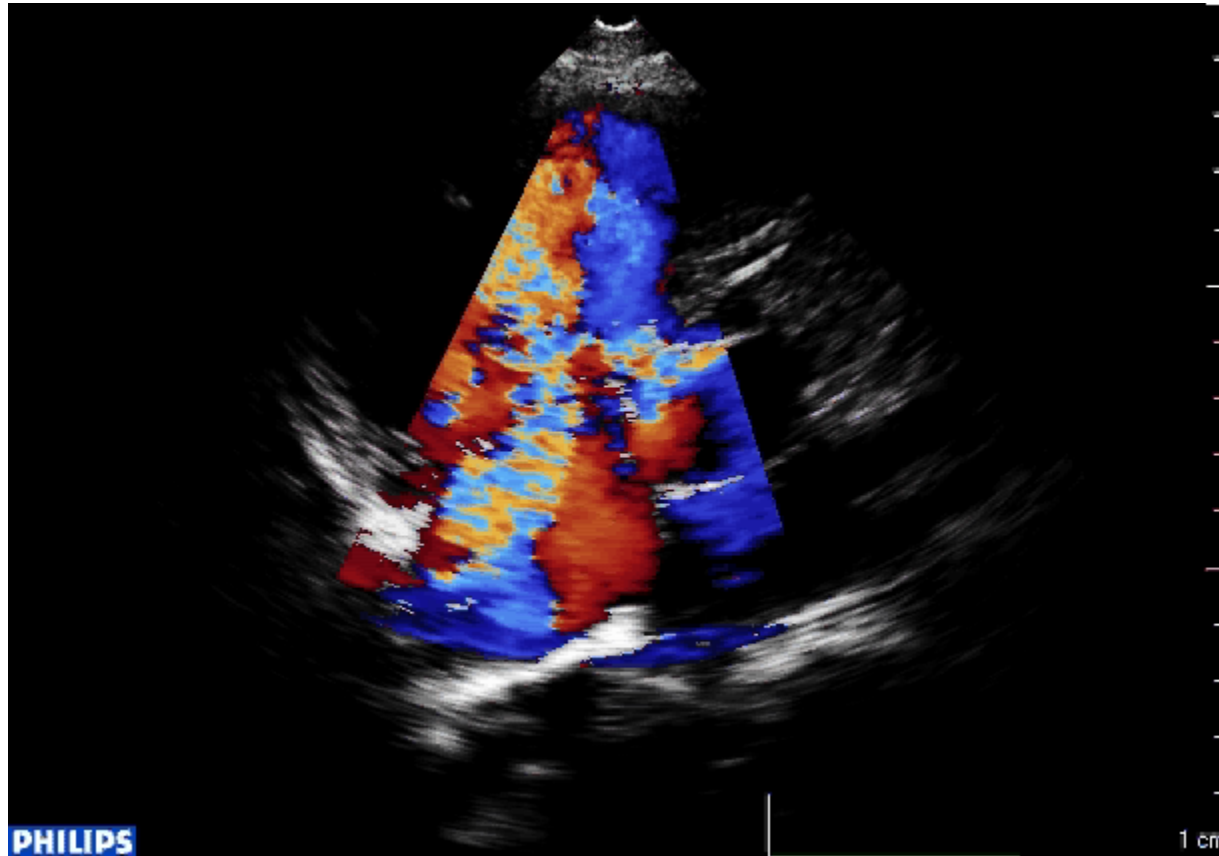
# JULES

- 15 ans
- 58 kg et 168 cm
- Dyspnée stade 2
- TA 120/80 mmHg
- SS holosystolique 4/6

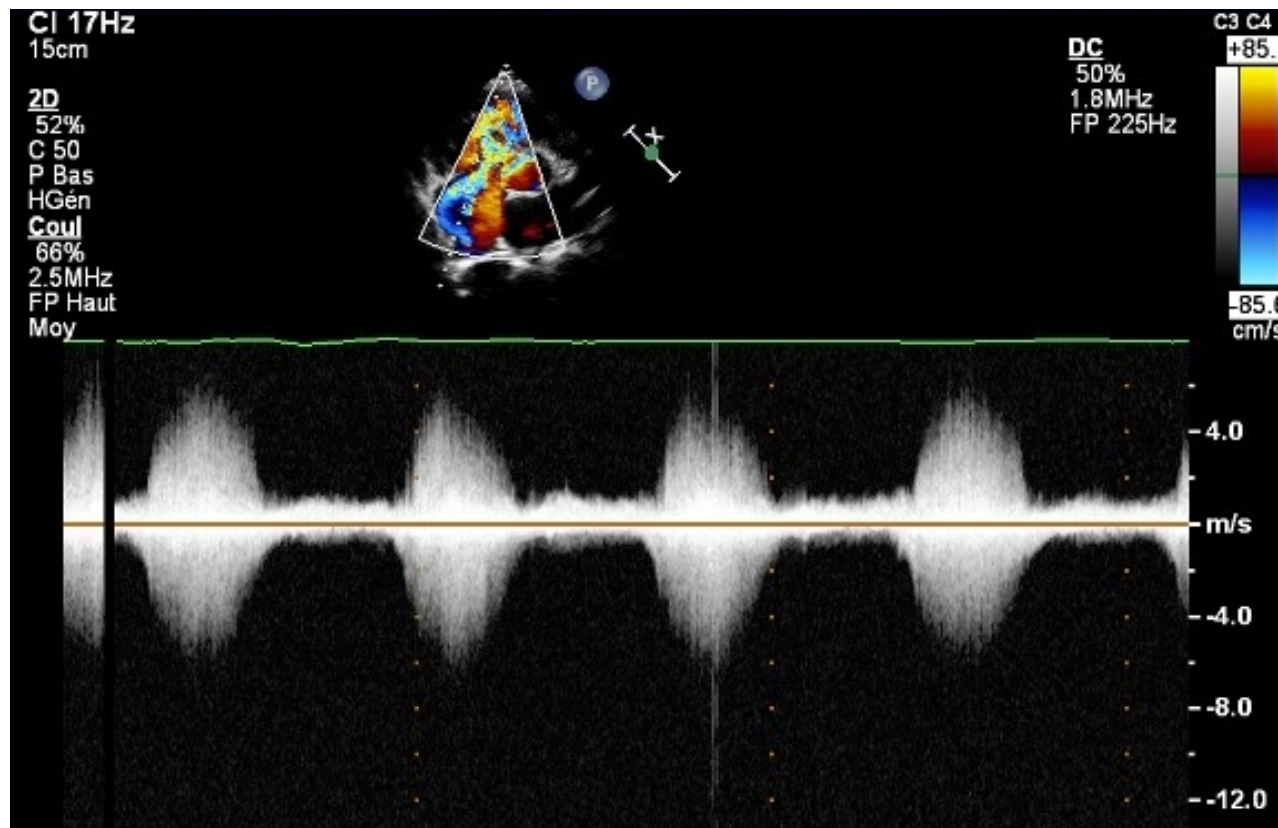
# JULES



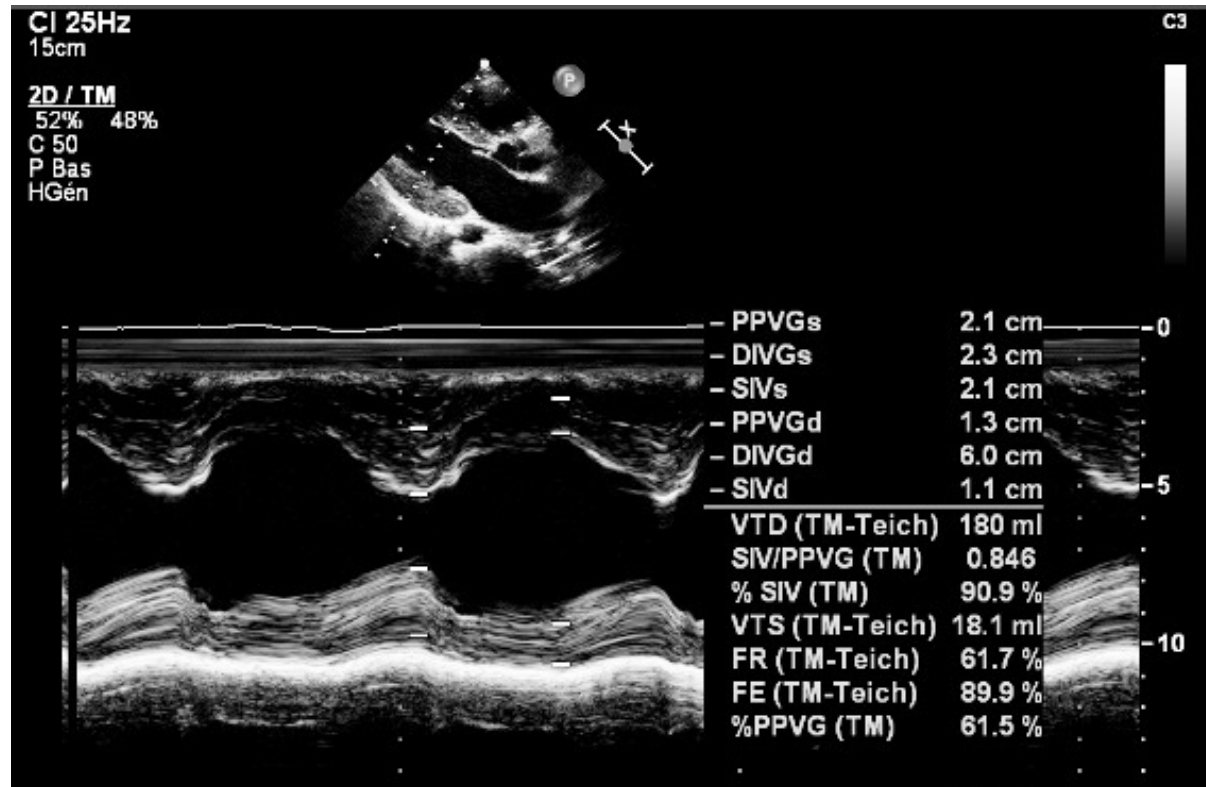
# JULES



# JULES



# JULES



# QUESTIONS 1

- 1- Le shunt est VG-VD
- 2- Le shunt est VG-OD
- 3- Le shunt est VG-VD et VG-OD
- 4- Le shunt G-D est significatif

# QUESTIONS 1

1- Le shunt est VG-VD

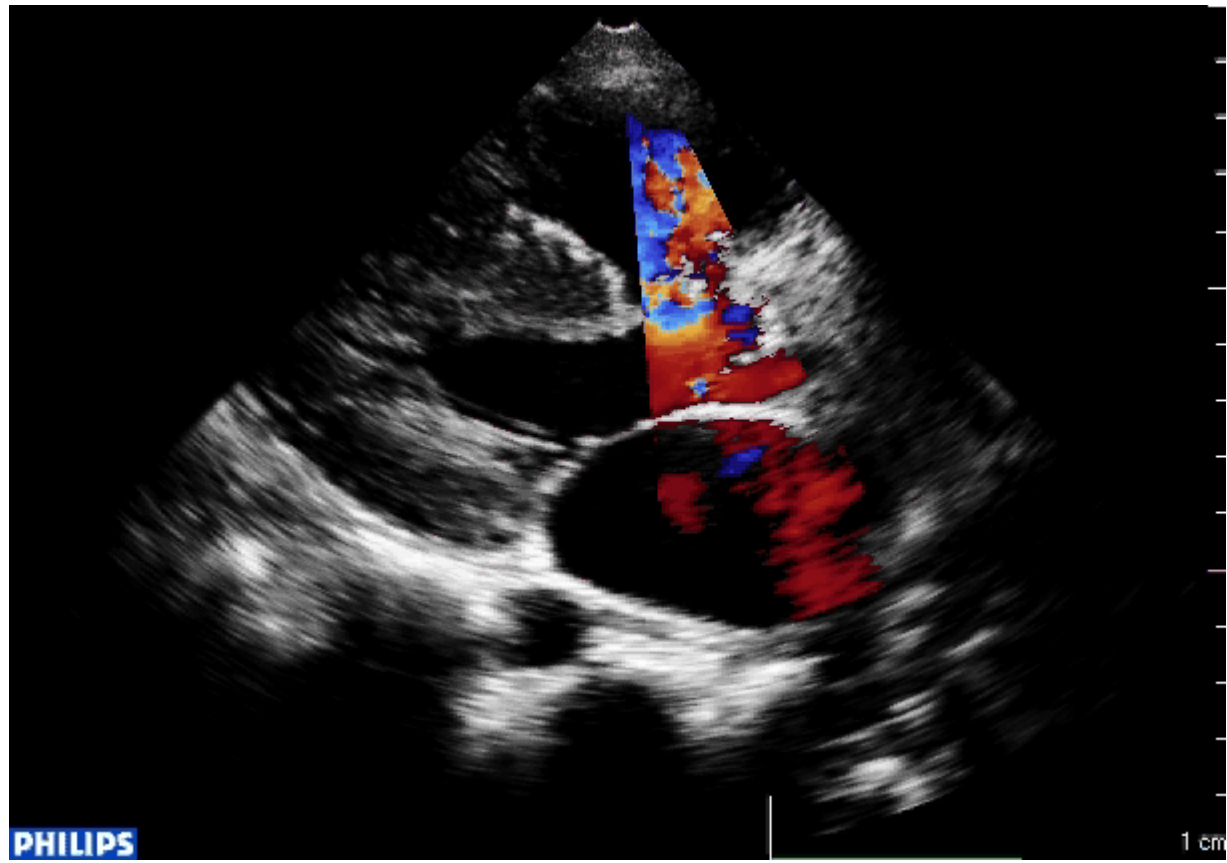
2- Le shunt est VG-OD

3- Le shunt est VG-VD et VG-OD

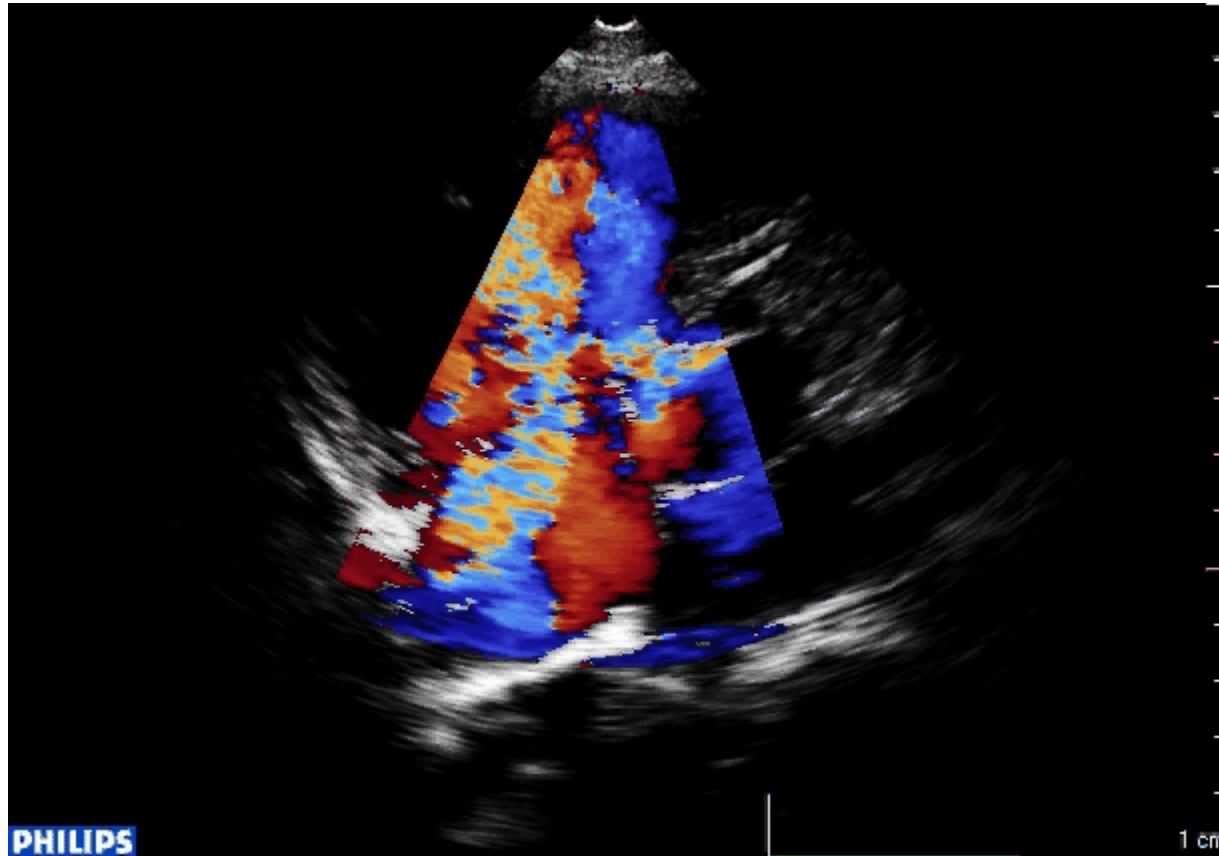
4- Le shunt G-D est significatif



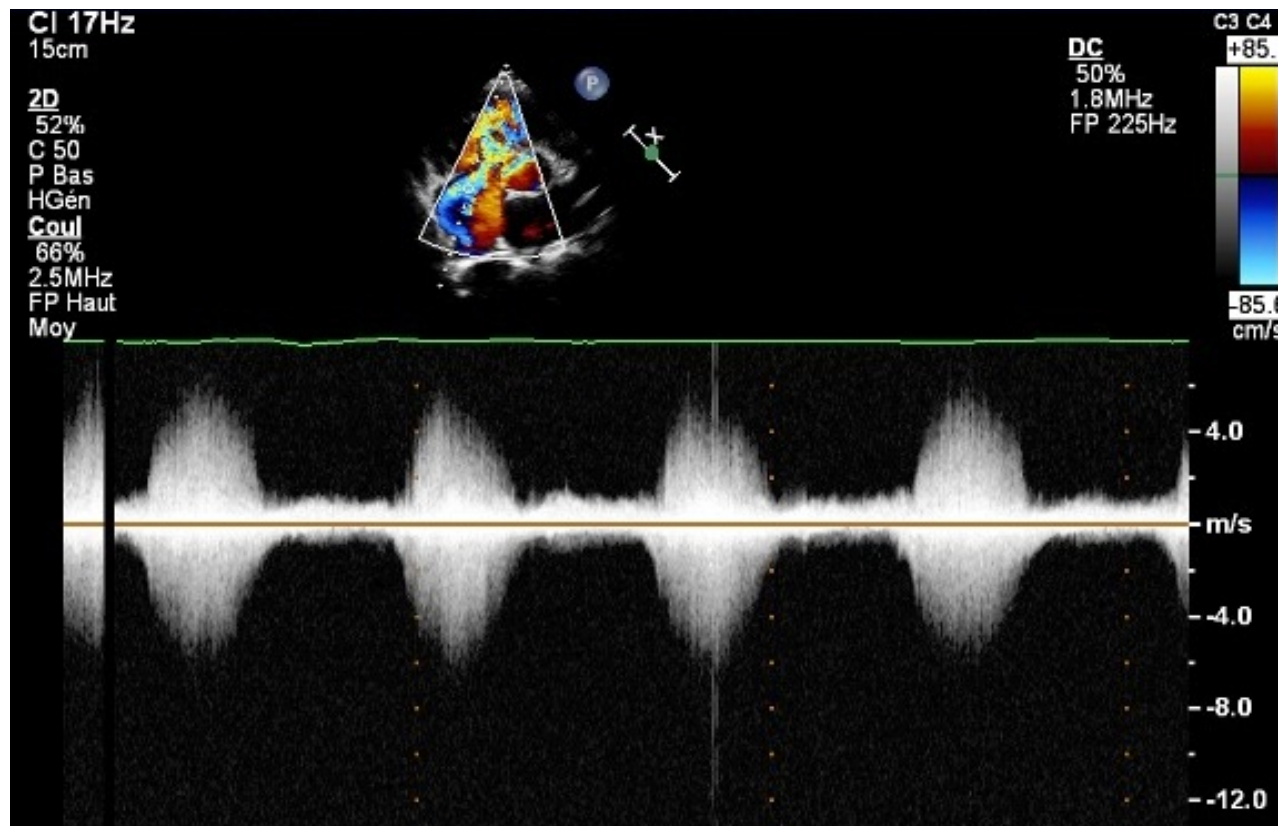
# JULES



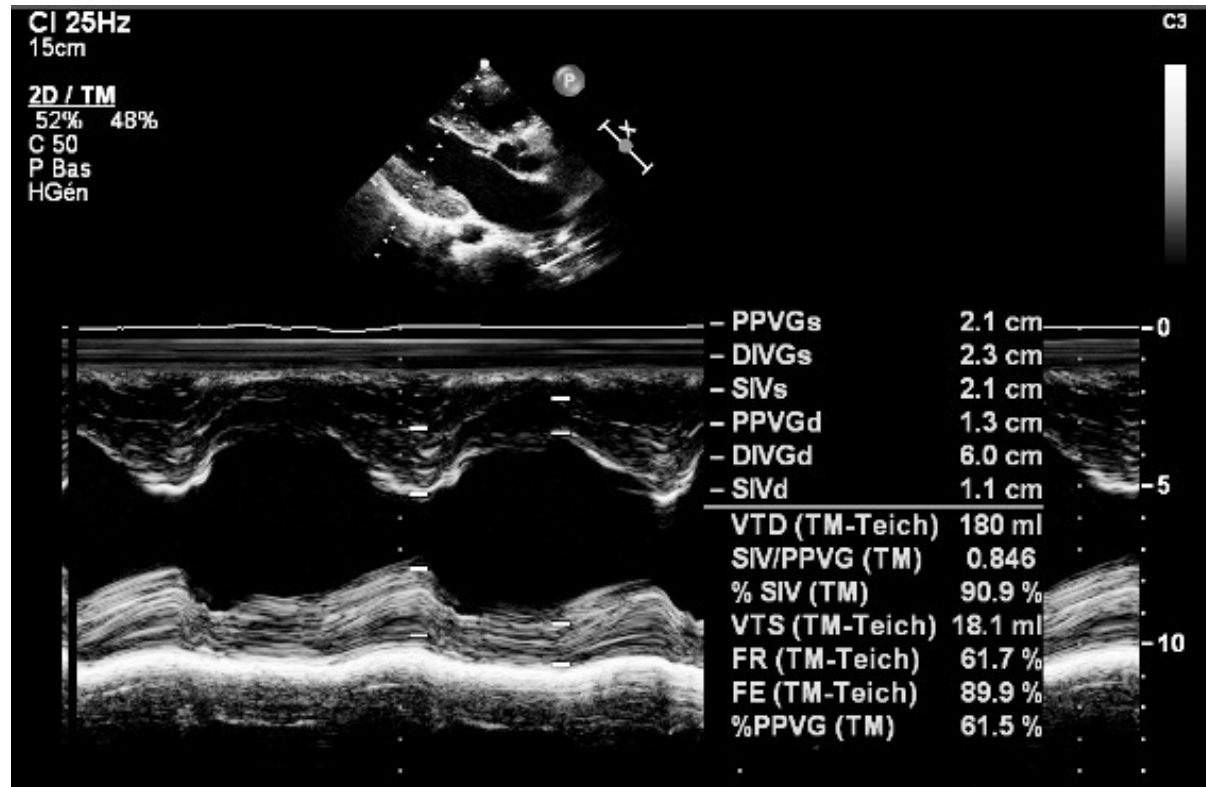
# JULES



# JULES



# JULES



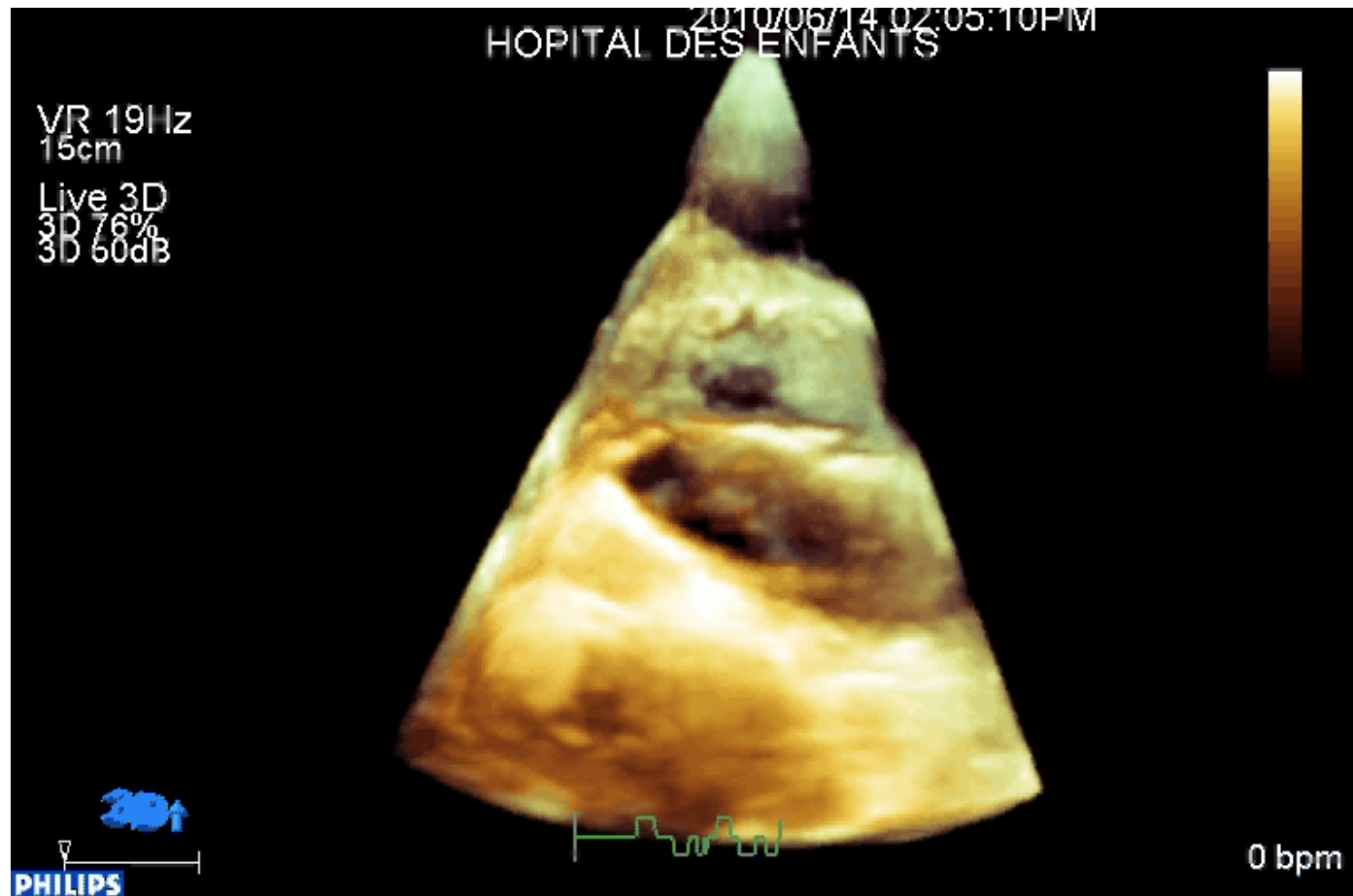
# JULES



# JULES



# JULES



# JULES





# QUESTIONS 2

- 1- Le sac anévrysmal est unique
- 2- Le sac anévrysmal est double
- 3- Le feuillet septal tricuspide est concerné
- 4- Le feuillet antérieur tricuspide est concerné

# QUESTIONS 2

1- Le sac anévrysmal est unique

2- Le sac anévrysmal est double

3- Le feuillet septal tricuspide est concerné

4- Le feuillet antérieur tricuspide est concerné

# GERBODE DEFECT

## Syndrome of Left Ventricular-Right Atrial Shunt

### Successful Surgical Repair of Defect in Five Cases, with Observation of Bradycardia on Closure \*

FRANK GERBODE, M.D., HERBERT HULTGREN, M.D., DENIS MELROSE, M.B.,  
JOHN OSBORN, M.D.

*From the Departments of Surgery, Medicine and Pediatrics, Stanford University  
School of Medicine, San Francisco, California*

THE VARIATION of a membranous ventricular septal defect which has its major flow into the right atrium has been recognized for many years. More recently the opportunity which advances in intracardiac surgery offer has made it possible to close such defects with relatively low mortality rate. This makes it desirable to study the variations in clinical and laboratory observations which facilitate the recognition in advance of the exact location of the shunt. It is the purpose of this paper to describe the essential clinical features of five instances of left ventricular-right atrial shunt. All were successfully closed with the aid of extracorporeal circulation. It was of interest to observe that upon temporary closure of the defect manually, with an intact circulation, the systemic blood pressure rose and the pulse slowed in an identical manner as has been observed to take place upon closure of a peripheral arteriovenous fistula or a patent ductus arteriosus.

Although such lesions have been described for many years, only five patients have been reported who have had a complete clinical study including cardiac catheterization and in whom surgical repair of

the lesion has been attempted.<sup>9, 10, 14, 20</sup> One of these patients survived.<sup>9</sup> An earlier case report called attention to the cardiac catheterization findings that one would expect in the presence of the lesion, although in this case this study was not done.<sup>18</sup>

In addition to there being an opening, which is essentially between the left ventricle and right atrium, there is usually some defect in the septal leaflet of the tricuspid valve adjacent to the margin of the shunt. This further allows the escape of blood into the right atrium.

#### Material and Methods

Phonocardiograms were recorded using a Sanborn Twin Beam Cardiette at paper speeds of 75 mm. per second. Murmurs were graded from 1 to 4 according to their loudness. Catheterization studies were performed in the usual manner and all blood samples were analyzed using the Van Slyke technic. Blood flows were calculated using the Fick principle and assuming a normal oxygen consumption for each patient. Pulmonary venous blood was assumed to be 95 per cent saturated. Inferior and superior vena caval blood oxygen contents were averaged to obtain the peripheral arteriovenous difference. If only a superior vena cava sample was obtained this value was used. In each patient the ratio of pulmonary blood flow to peripheral blood flow was

446

GERBODE, HULTGREN, MELROSE AND OSBORN

Annals of Surgery  
September 1958

- genden Klappenzipfel der Valvula tricuspidalis. Arch. path. Anat., 237:355, 1922.
8. Hart, C.: Ueber die Defekte im oberen Teile der Kammerscheidewand des Herzens mit Berücksichtigung der Perforation des häutigen Septums. Arch. path. Anat., 181:51, 1905. (Case 4.)
  9. Kirby, C. K., J. J. Johnson and H. F. Zinsser: Successful Closure of a Left Ventricular-Right Atrial Shunt. Ann. Surg., 145:392, 1957.
  10. Kjellberg, S., E. Mannheimer, U. Rudhe and B. Jonsson: Diagnosis of Congenital Heart Disease. Chicago, Year Book Publishers, 1955.
  11. Leatham, A. and I. Gray: Auscultatory and Phonocardiographic Signs of Atrial Septal Defect. Brit. Heart J., 18:193, 1956.
  12. Lewis, D., G. Deitz, J. Wallace and J. Brown: Intracardiac Phonocardiography in Man. Circulation, 16:764, 1957.
  13. Luisada, A. and M. Testelli: Atrial Septal Defect. Intracardiac Phonocardiography. Am. J. Card., 1:134, 1958.
  14. Lynch, D. L., J. K. Alexander, R. L. Hershberger, J. Mise, E. W. Dennis and D. A. Cooley: Congenital Ventriculo-atrial Communication with Anomalous Tricuspid Valve. Am. J. Card., 1:404, 1958.
  15. Mason, D. and W. C. Hunter: Localized Congenital Defects of the Cardiac Interventricular Septum. A Study of Three Cases. Am. J. Path., 13:835, 1937. (Case 3.)
  16. Merkel, G.: Zur casuistik der fätaalen Herzerkrankungen. Arch. path. Anat., 48:488 1869. (Case 1.)
  17. Nicoladoni, C.: Phlebarteriectasie der rechten oberen Extremität. Arch. klin. Chir., 18:252, 1875.
  18. Perry, E. L., H. B. Burchell and J. E. Edwards: Congenital Communication Between the Left Ventricle and the Right Atrium; Co-existing Ventricular Septal Defect and Double Tricuspid Orifice. Proc. Staff. Meet., Mayo Clin., 24:198, 1949.
  19. Preisz, H.: Beiträge zur Lehre von den angeborenen Herzanomalien. Beitr. path. Anat., 7:245, 1890 (Case 6).
  20. Stahlman, M., S. Kaplan, J. Helmsworth, L. Clark and H. Scott, Jr.: Syndrome of Left Ventricular-Right Atrial Shunt Resulting from High Interventricular Septal Defect Associated with Defective Septal Leaflet of the Tricuspid Valve. Circulation, 12:813, 1955.
  21. Thurnam, J.: On Aneurisms of the Heart. Tr. M. Soc. London, 21:187, 1838.
  22. Weinstein, S.: A Congenital Perforate Interventricular Septum of the Heart accompanied by a Shortened Medial Tricuspid Leaflet and a Dilated Pulmonary Artery with Two Cusps. Tr. Path. Soc. Chicago, 12:279, 1927.
  23. Wood, P., O. Magidson and P. A. O. Wilson: Ventricular Septal Defect with a Note on Cyanotic Fallot's Tetralogy. Brit. Heart J., 16:387, 1954.

\* Presented before the American Surgical Association, New York, N. Y., April 16-18, 1958.

Aided by grants from the U.S.P.H. Service, and the American Heart Association.

# GERBODE DEFECT

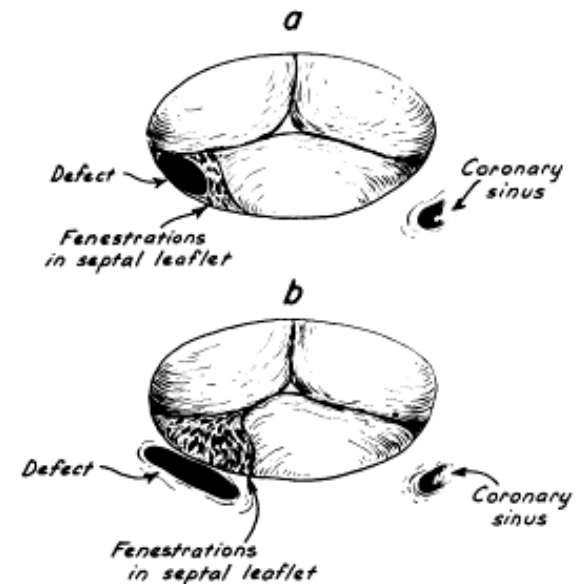
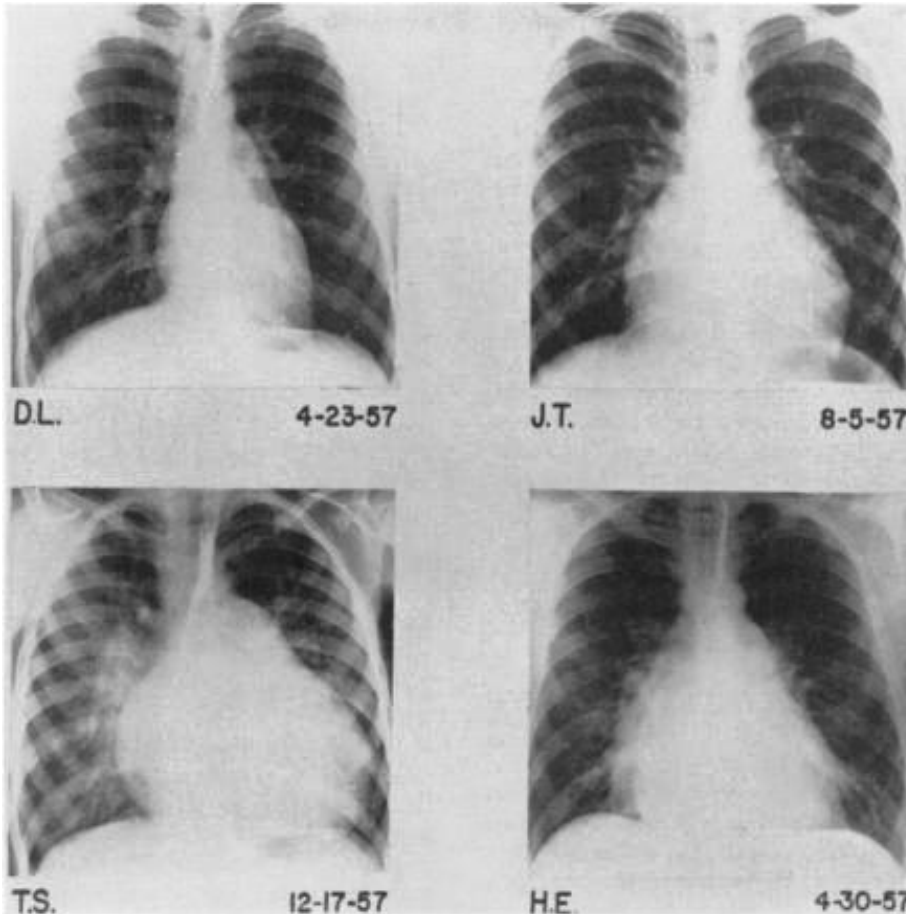
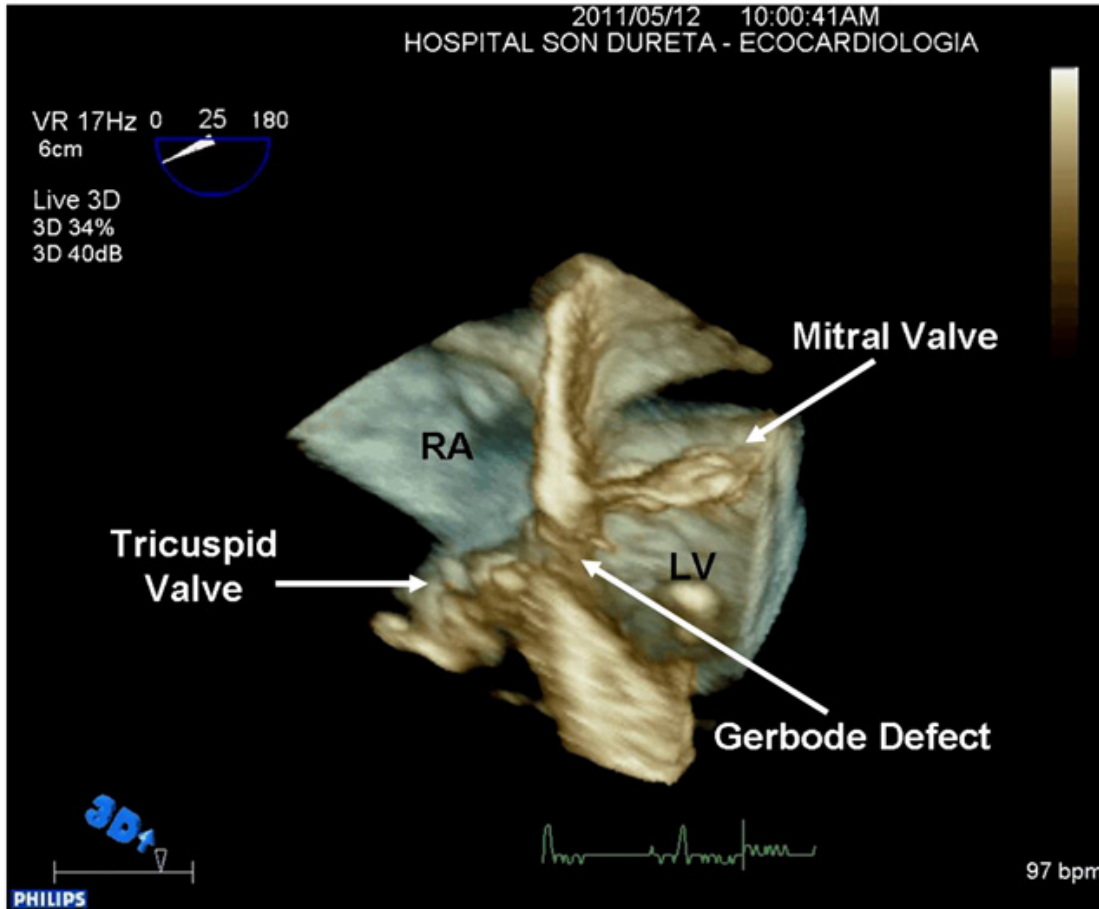


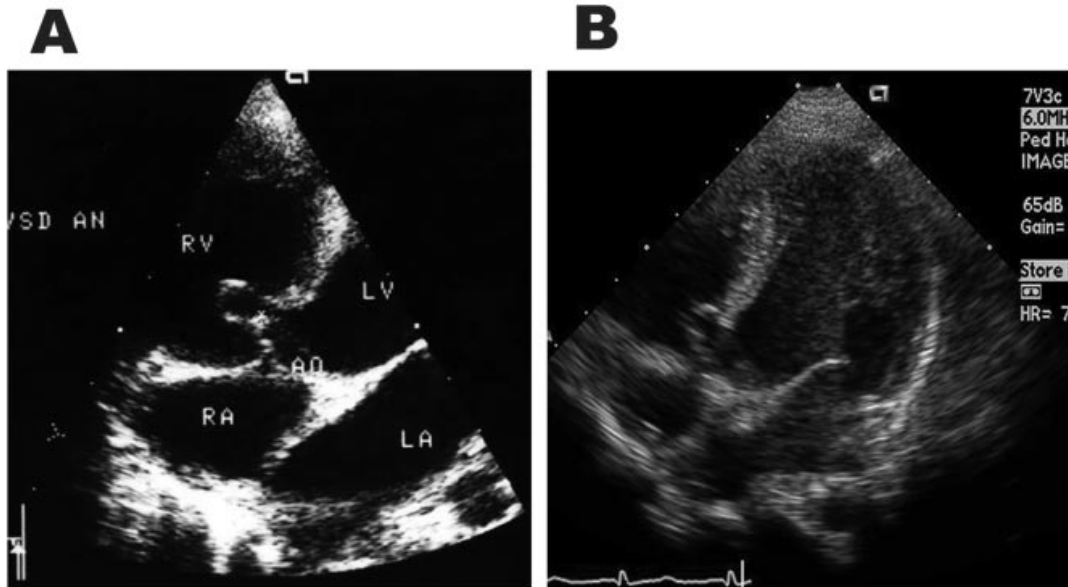
FIG. 4. Drawing showing the essential aspects of left ventricular-right atrial shunt. a) Type of defect in 4 out of the 5 patients. b) Type of defect in Case 3.

# DIRECT GERBODE DEFECT

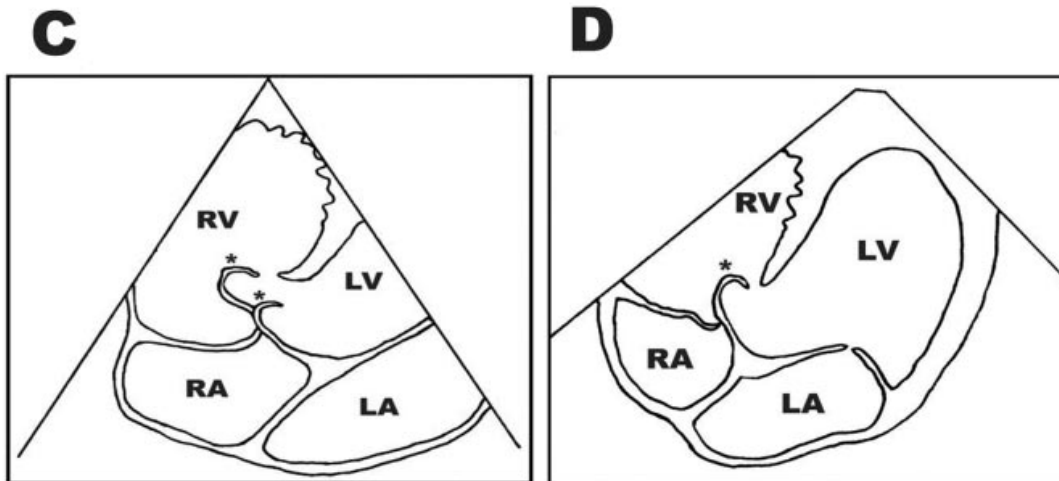


Millan et al.  
*Int J Cardiol*  
2012;157:e52-e53

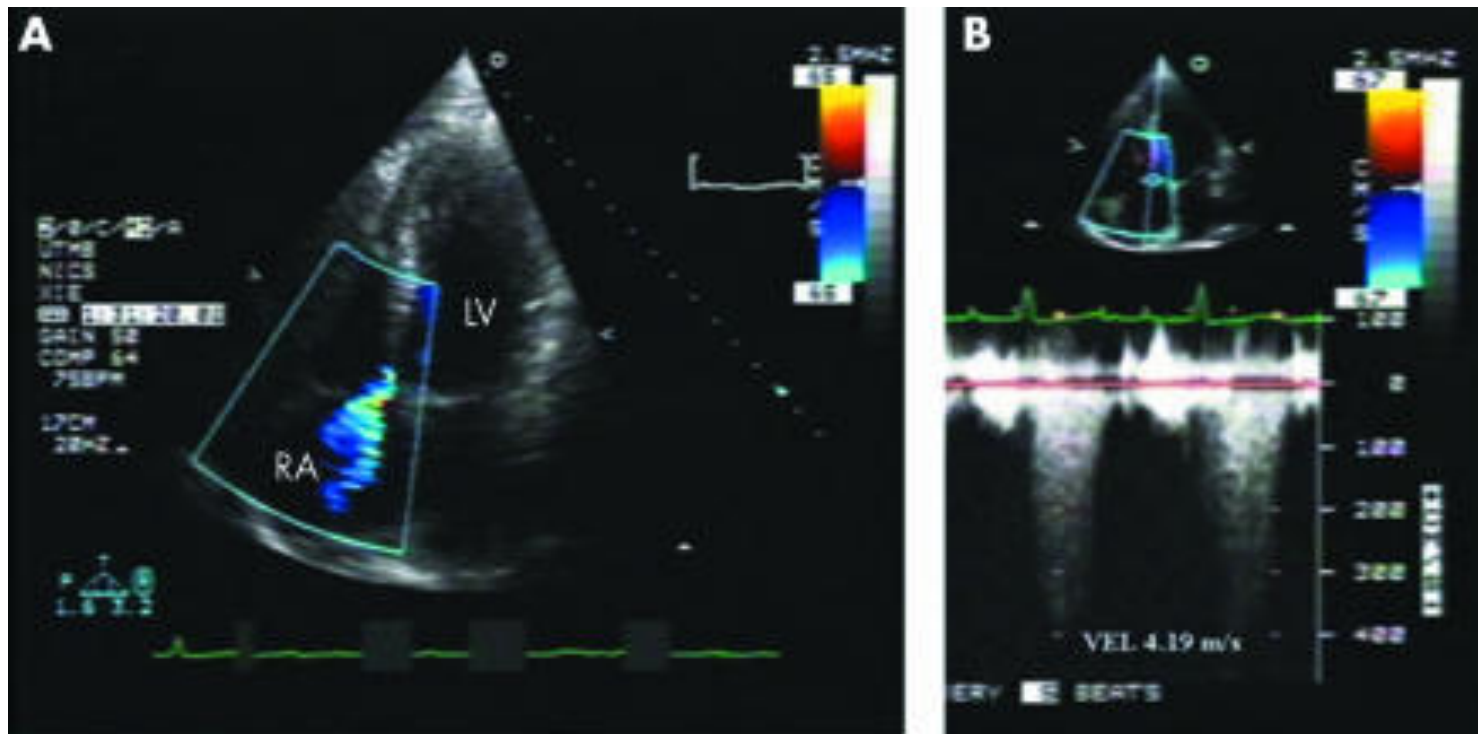
# INDIRECT GERBODE DEFECT



Wu et al.  
*Pediatrics*  
2006;117:e262-e267

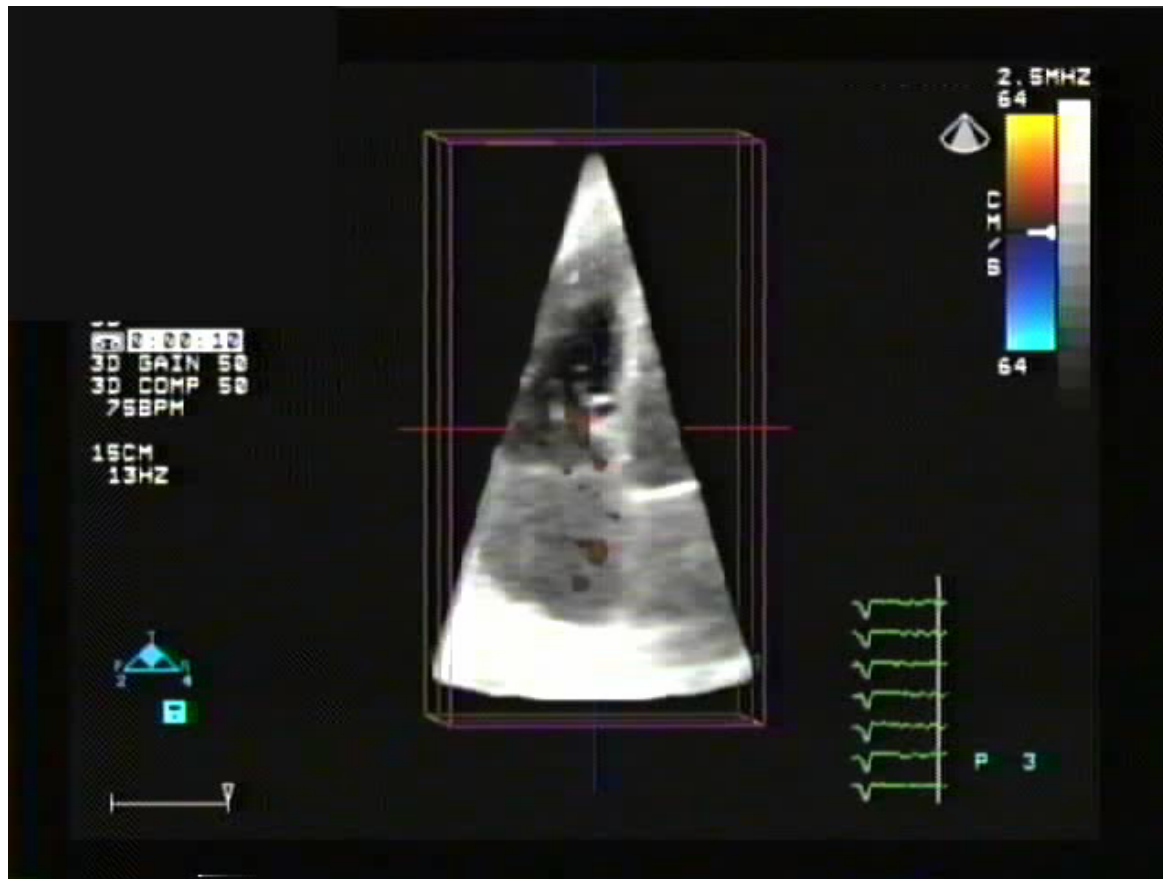


# GERBODE SAC SIMPLE



### Gradient VG-OD

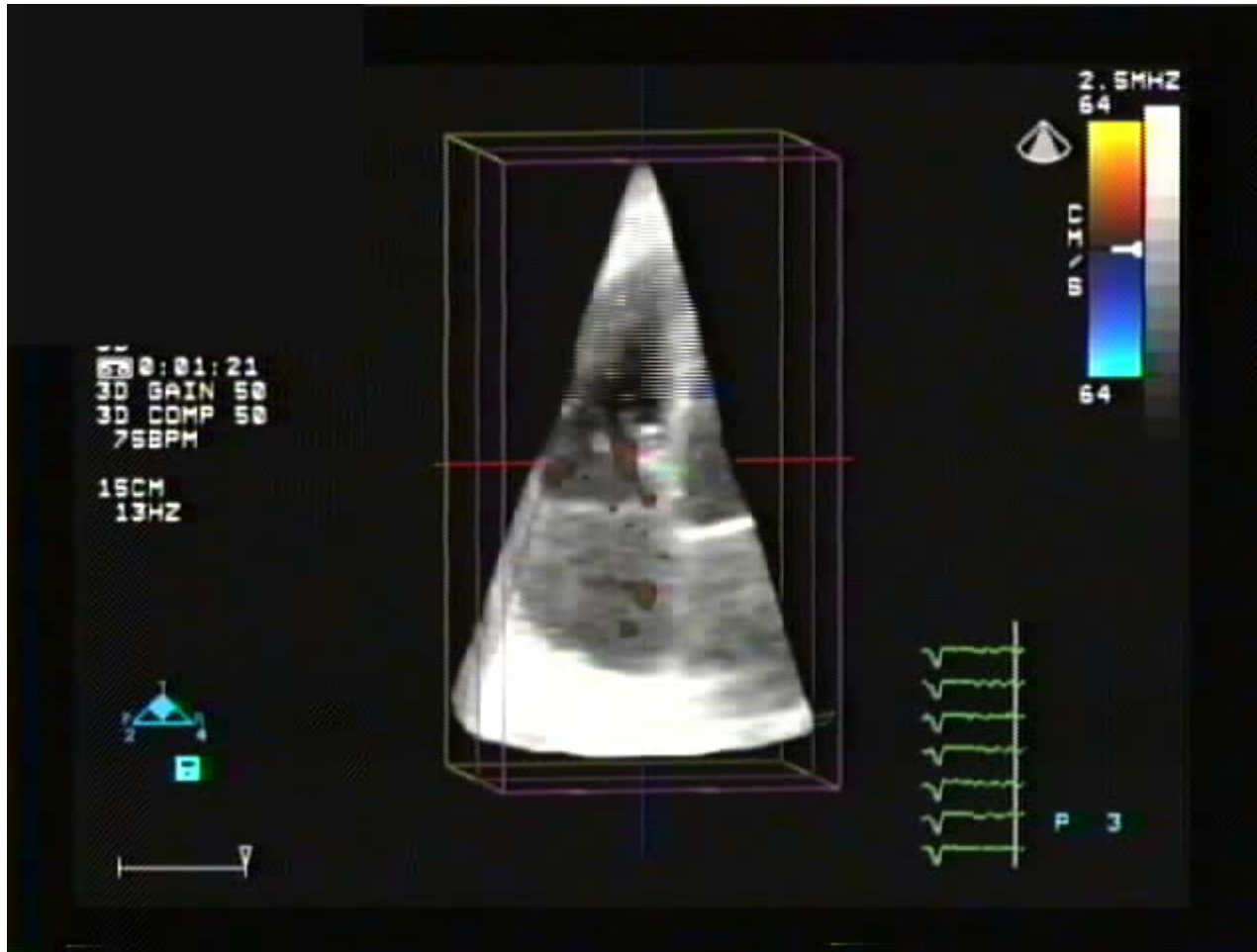
# GERBODE SAC SIMPLE



- 76 ans
- Asymptomatique
- Souffle systolique



# GERBODE SAC SIMPLE



Agoston et al.  
*Heart*  
2005;1562

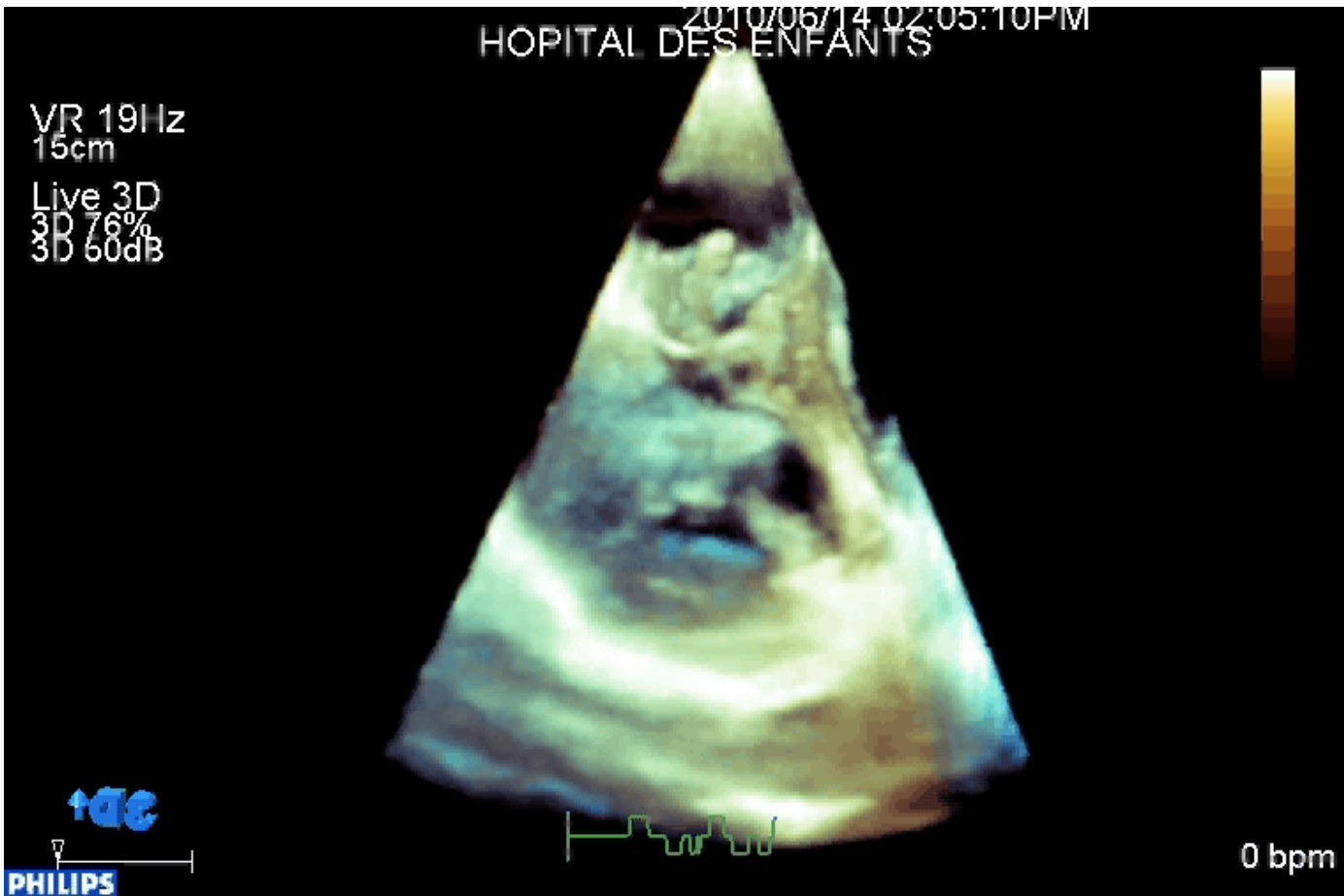
# GERBODE SAC DOUBLE



# GERBODE SAC DOUBLE



# GERBODE SAC DOUBLE



Acar et al.  
*Echocardiography*  
2011;28:E140-E142

# GERBODE EVOLUTION

- Sac simple

- Sac double  
(Chirurgie, Endoc)

Wu et al.  
*Pediatrics*  
2006;117:e262-e267

