

Surgical outcome of post-infarction left ventricular free wall rupture

Chan-Young Na M.D.

Hallym University, Korea

Introduction

- Cardiac rupture after acute myocardial infarction, which includes ventricular free wall rupture, septal rupture and papillary muscle rupture, could result in lethal complications.
- Early recognition and aggressive treatment are recommended. However, its clinical results outcomes are poorly studied because of the condition's rarity. Here author review the surgical results of ischemic free wall rupture of the left ventricle.

Patient Profile

- **total of 11 patients**
- **free wall rupture of the left ventricle after acute myocardial infarction.**
- **Peroid : August 1999 - February 2023**

Table 1. Preoperative partient profiles

No.	sex/age	symptom-rupture	AMI territory	preop. PCI
1	m/71	3 days	inferior	
2	m/69	7 days	inferior	
3	m/68	6 hours	anterior	0
4	f/72	2 days	anterior	0
5	6/69	5 days	anterior	0
6	m/75	2 days	anterior	0
7	f/79	0 days	anterior	
8	m/70	3 days	anterior	0
9	f/72	2 days	inferior	
10	m/73	1 day	anterior	0
11	m/64	1 day	anterior	CABG

Table 2. Operative procedures and results

No.	Type of rupture	procedures	CPB/ECMO	result	cause of death	LV EFX(%) at discharge	F/U
1	subacute	sutureless patch and glue		survived		30	63m
2	subacute	sutureless patch and glue		death(POD 3 day)	rebleeding	50	.
3	subacute	sutureless patch and glue		survived		40	47m
4	subacute	sutureless patch and glue		survived		40	72m
5	subacute	sutureless patch and glue		survived		40	97m
6	subacute	sutureless patch and glue		survived		50	38m
7	blow-out + papillary muscle rupture	MVR + primary suture(multiple)	CPB	death(op. day)	intraop. bleeding	.	.
8	subacute	sutureless patch and glue		survived		40	91m
9	subacute	sutureless patch and glue		death(POD 1 day)	rebleeding	40	.
10	blow-out	primary suture	CPB	survived		50	49m
11	blow-out	primary suture + suturess patch and glue	ECMO	survived		20	2m

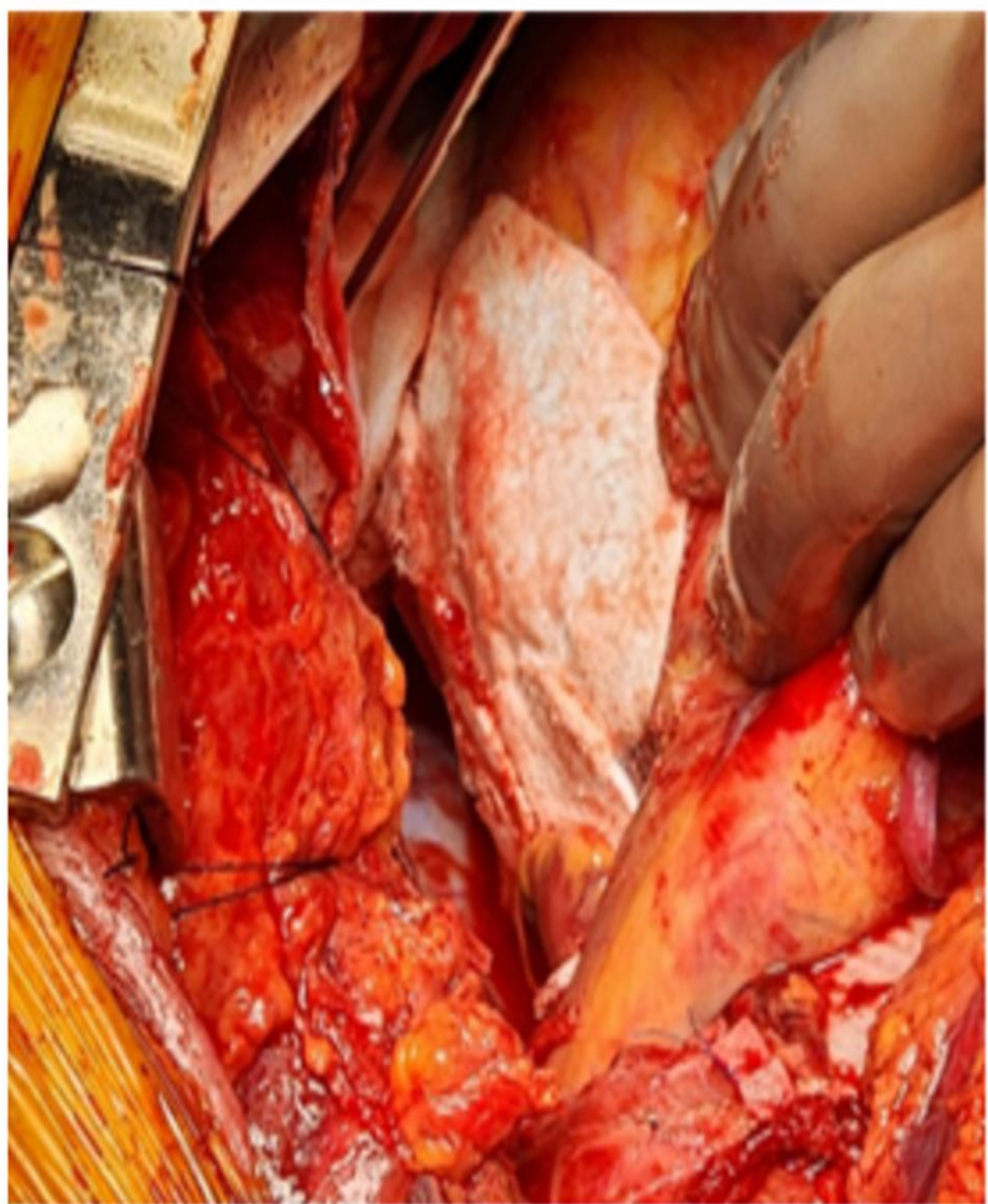


Fig.1 Sutureless technique (patch and glue)

- Cyanoacrylate glue was purchased preoperatively from general stores. The glue was soaked in an antiseptic solution (CIDEX; Advanced Sterilization Products) for more than 5 minutes. A Teflon felt, herein referred to as the "patch," with 1 side soaked in commercially available cyanoacrylate glue, was placed on the infarcted area of the myocardium. After 2 to 3 minutes, the patch hardened and became hemostatic. The patch is usually between 4 × 5 cm and 5 × 6 cm in size and is trimmed to an elliptical shape.

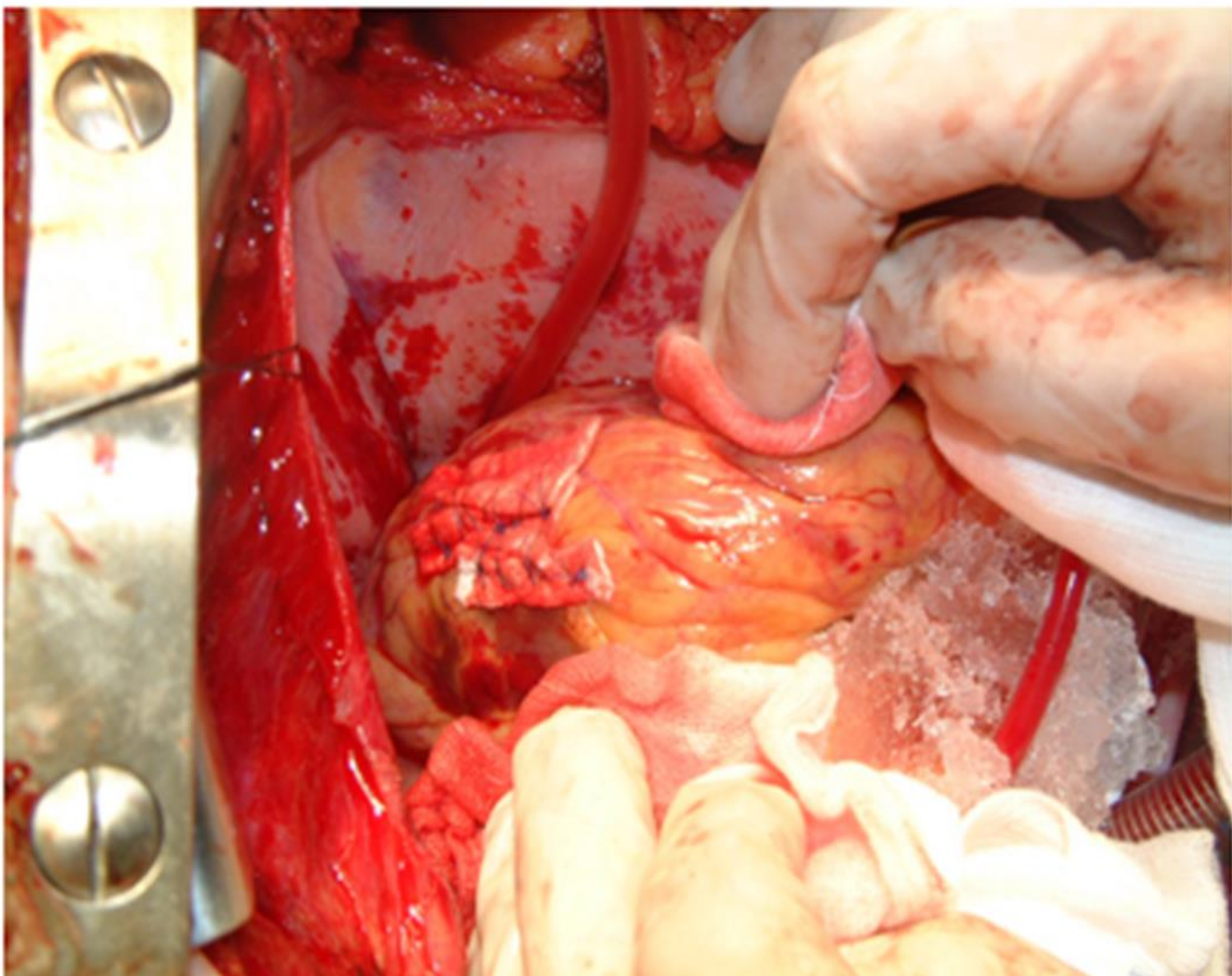
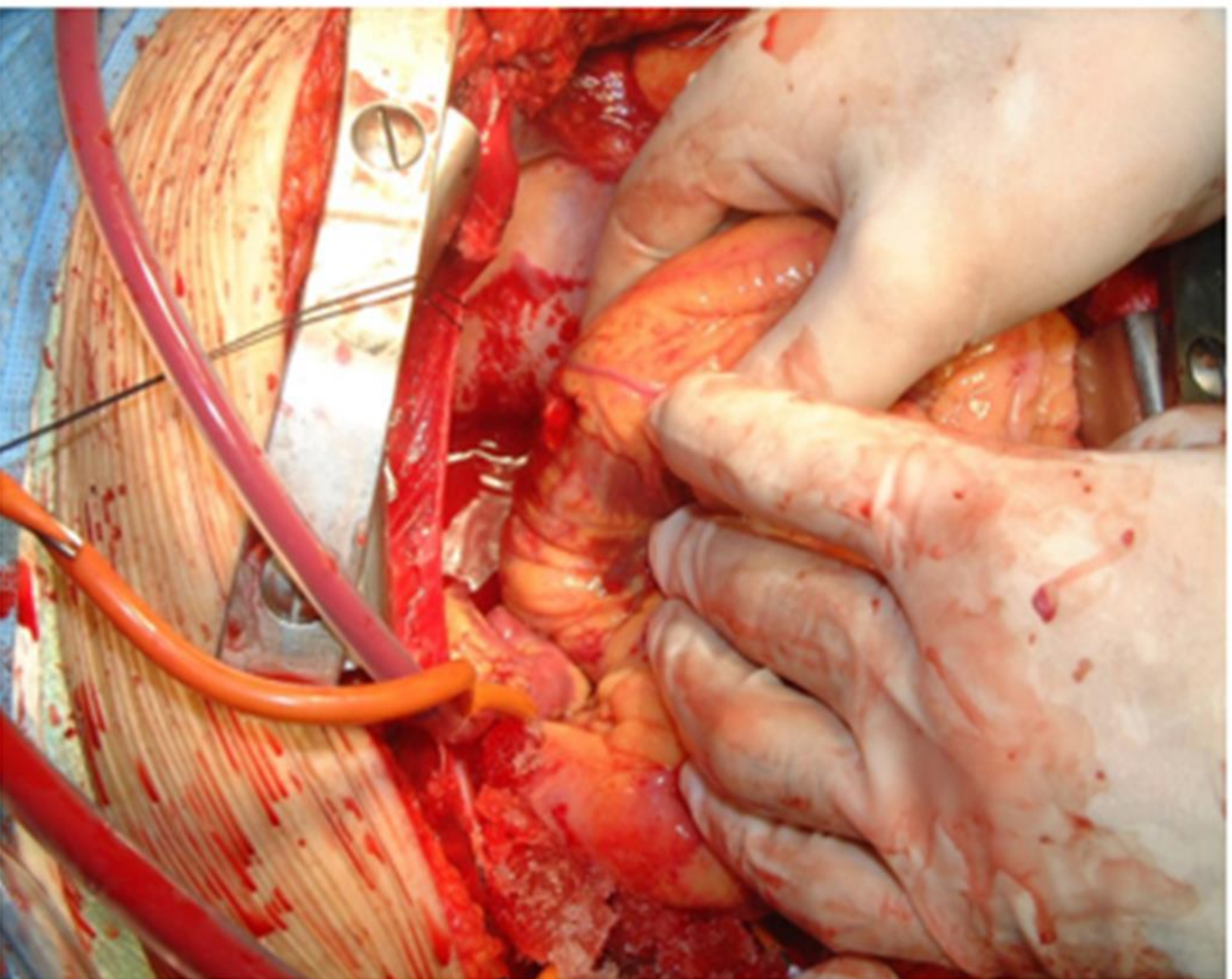


Fig. 2 Multiple repair with pledgeted sutures due to left ventricular free wall blow-out rupture

Conclusion

- Different techniques have been developed over the years for the management of left ventricular free wall rupture. Nevertheless, the optimal surgical treatment for this post myocardial infarction mechanical complication remains controversial. Although the technical strategy varies, a basic principle that appears to remain unchanged is that surgeons should put stitches, or fixed patches, in the healthy myocardial tissue.