

Cardiac Transplantation

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Process of Heart Transplant

- Listing
- Support
- Matching
- Surgery
- Post-transplant care

Listing

Indications for listing :

- End-stage heart failure despite maximal medical therapy
- Complex congenital heart disease with no further medical or surgical options.
- Progressive pulmonary hypertension secondary to systemic ventricular failure that would preclude transplantation at a later date.
- Failing Fontan circulation. With no medical or surgical option
- Refractory malignant arrhythmia causing haemodynamic compromise
- Unresectable cardiac tumours causing haemodynamic consequences
- Unacceptable poor quality of life secondary to advanced heart failure.

Contraindications

- Active malignancy or history of previous treatment with a high recurrence risk.
- Irreversible end-organ failure :
 - Decompensated liver cirrhosis is a contraindication to heart only transplant.
 - Severe renal abnormality/dysfunction not likely to be reversible and not suitable for continuing dialysis or renal transplant at a later stage.
 - Progressive or refractory multisystem organ failure unlikely to be resolved by heart only transplant.
 - Other significant organ dysfunction (including neurodevelopmental delay) likely to lead to an inability to adhere to post-transplant treatment regimens or poor quality of life.
- Progressive systemic disease with early mortality (genetic, metabolic, syndromic or neurological disease).
- Anatomical concerns regarding appropriate anastomosis (eg. Severely hypoplastic pulmonary arteries or veins)
- Severe, fixed elevation of pulmonary vascular resistance is a contraindication to heart only transplant.
- History of recurrent medical non-compliance despite an appropriate multidisciplinary and safeguarding team involvement.
- Psychological or psychiatric conditions not amenable to treatment leading to non-compliance with treatment regimens after transplant in spite of appropriate multidisciplinary team involvement.
- A lack of appropriate social support to enable compliance with treatment regimens after transplant.

Relative contraindications

- Malignancy in remission, patients should be assessed on an individual basis.
- Severe renal impairment not likely to be reversible.
- Active sepsis from bacterial, fungal or severe viral infection.
- Prior sensitisation with high levels of human leucocyte antigen antibody.
- Diabetes mellitus with evidence of severe end-organ damage.
- Morbid obesity.
- Limited venous access.

Criteria for urgent listing:

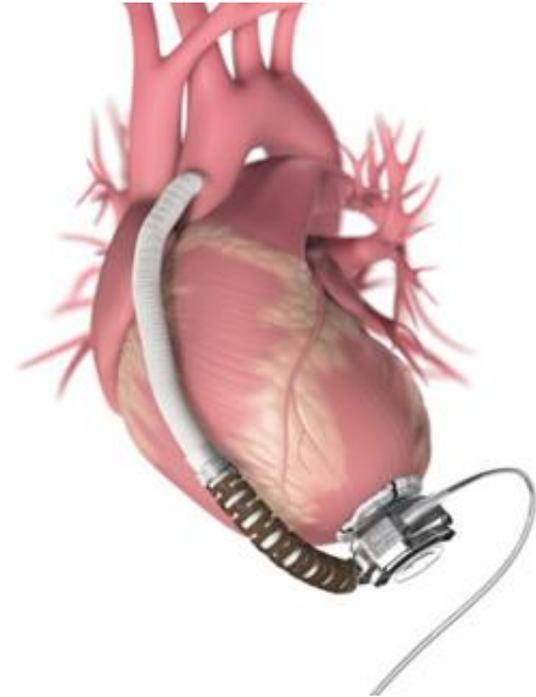
- Short-term mechanical circulatory support for acute hemodynamic instability (e.g ECMO, Berlin heart VAD)
- Need for more than one intravenous inotrope
- Need for intravenous inotrope and mechanical ventilatory support



Support





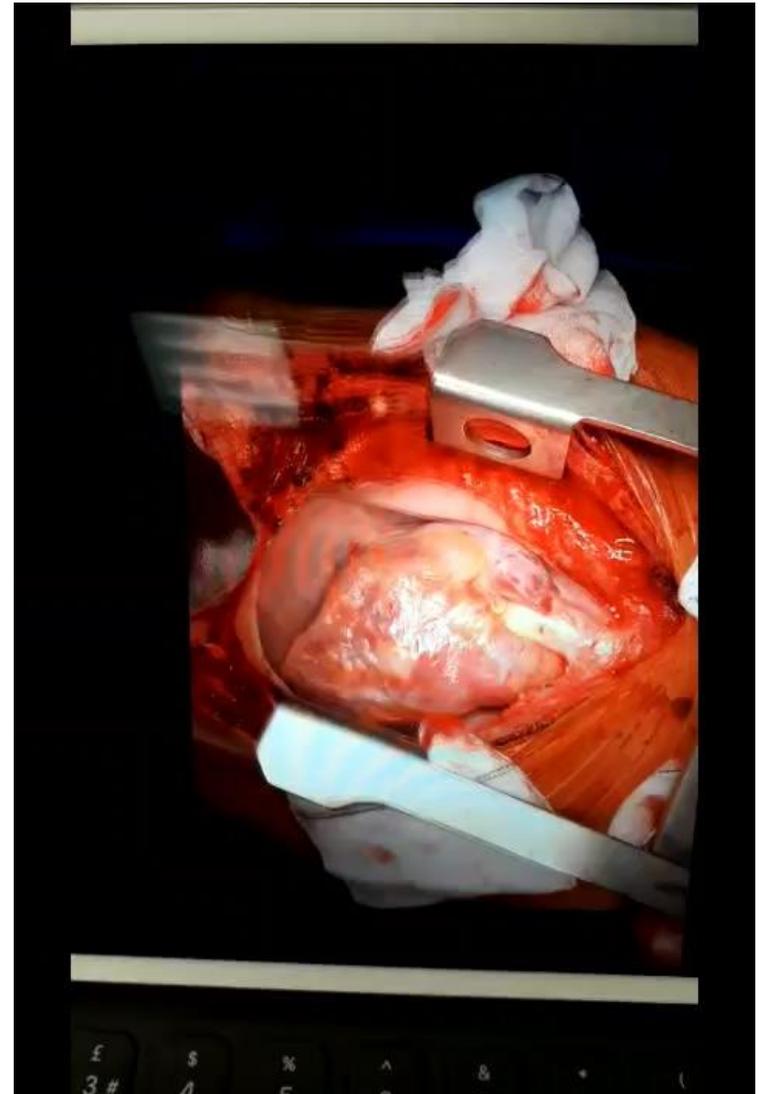
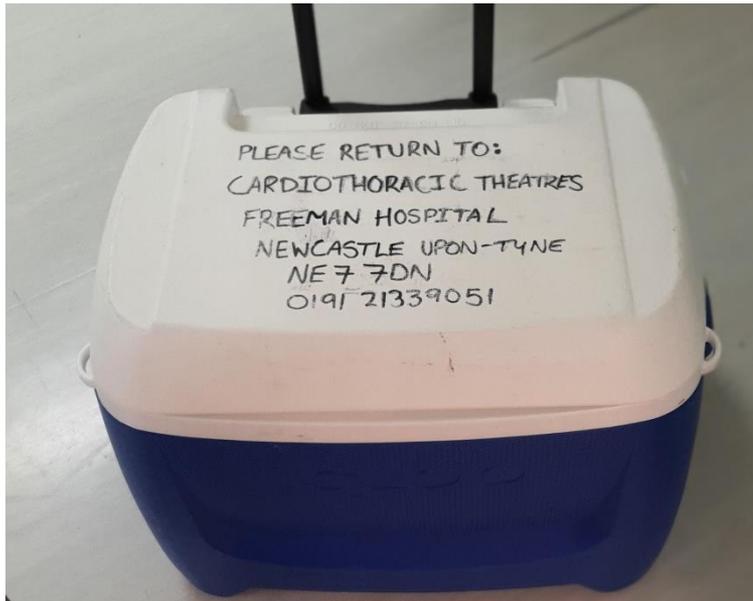


Matching: 'pushing the boundaries'

- Donor evaluation:
 - Matching
 - ABO and HLA
 - Size
 - Cardiac function
 - Cause of death
 - Duration of CPR
 - Amount of inotropes
 - Echocardiography

Surgery

- Donor team
 - Continuous assessment
 - Harvesting
 - Preservation



METRO NEWS

Police helicopter transporting heart for transplant crashes in Japan

Comment



A police helicopter transporting a heart for transplant has crashed in Japan (Picture: Alamy)



Jimmy Nsubuga
Sunday 2 Feb 2020 3:06 pm

A heart transplant operation had to be cancelled after a police helicopter carrying a donor organ crashed.

Pictures showed the damaged aircraft in a rice field in Koriyama, Fukushima Prefecture, northeastern Japan, on Saturday.

Mirror

Click here to find out how you can help us bring the nation together during the COVID crisis

CORONAVIRUS NEWS POLITICS SPORT FOOTBALL CI

Clumsy medics drop transplant heart in the street after helicopter hospital dash in Mexico

A donor heart was flown 450km across Mexico for an emergency transplant in a “rapid, precision manoeuvre” – only for clumsy medics to drop it on the street after landing.

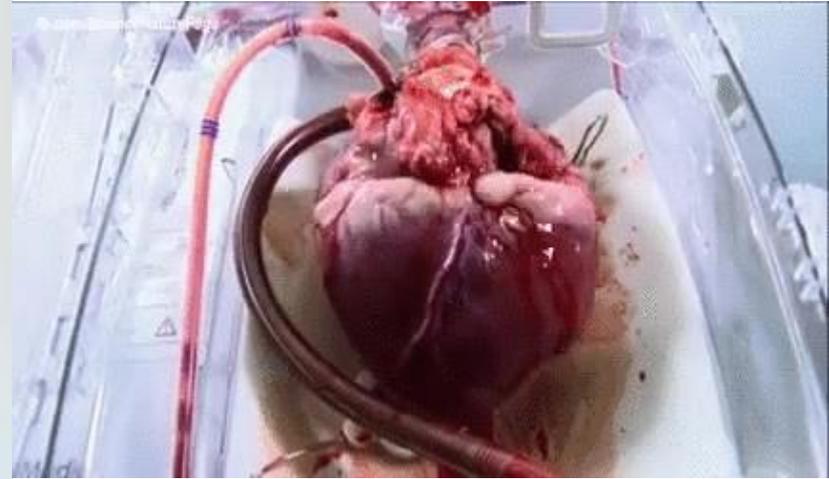


By **Mirror.co.uk**
14:53, 12 JAN 2012 | UPDATED 15:03, 5 MAR 2012



Medical personnel put a heart for transplant into an ice box after they found it along a street near a hospital in Mexico City (Pic: Reuters)

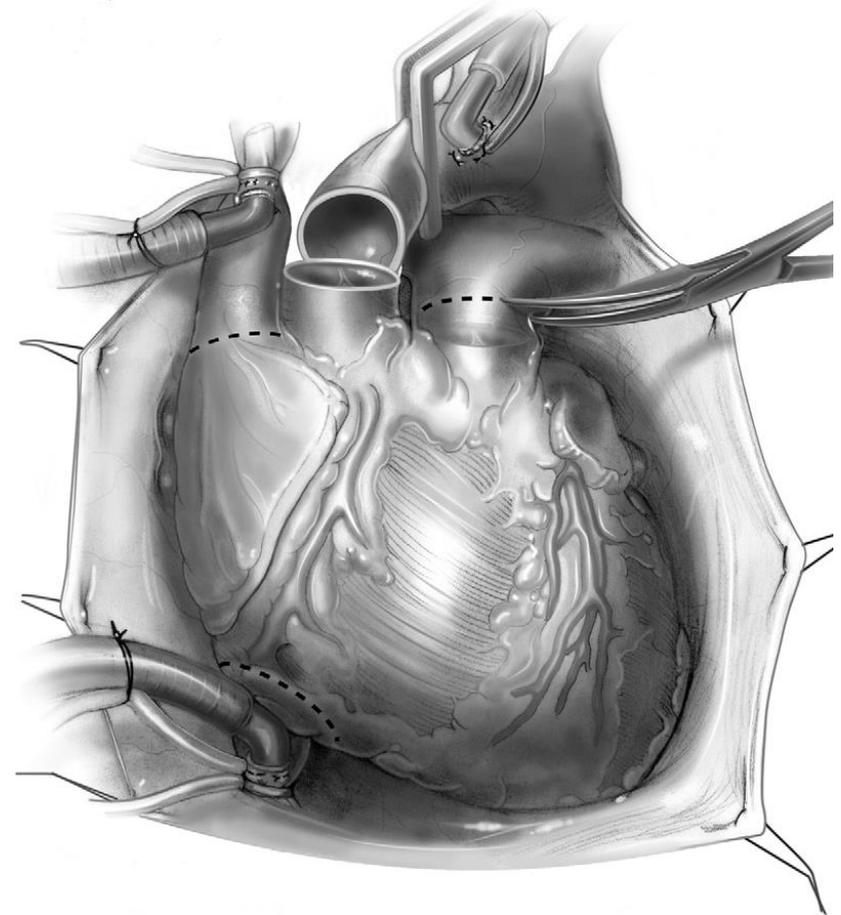
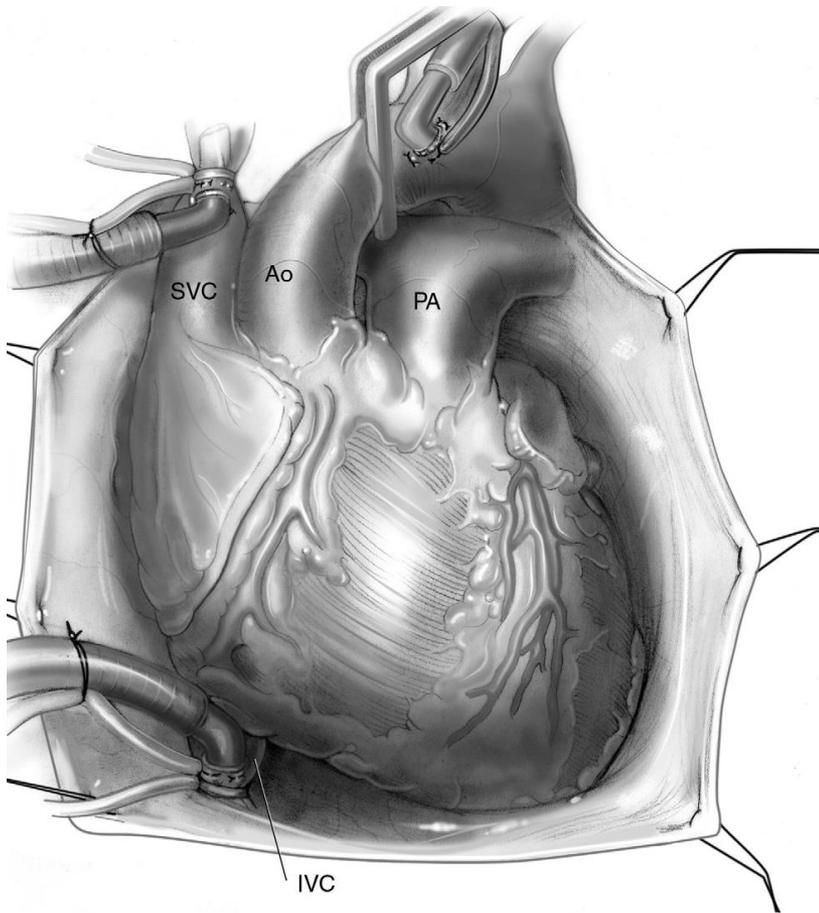


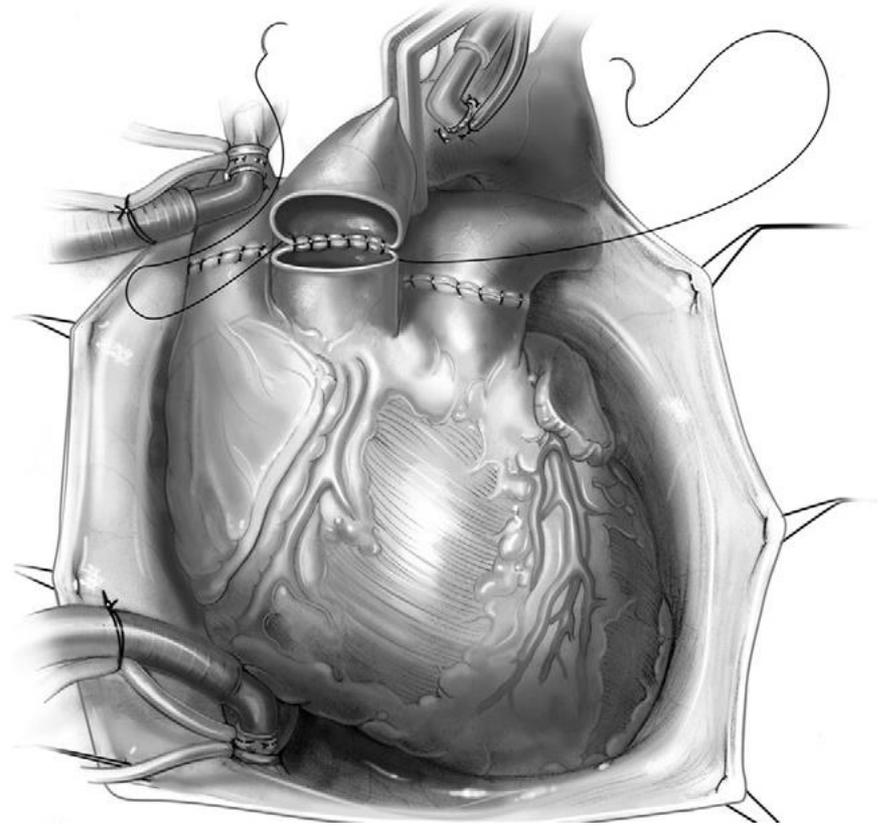
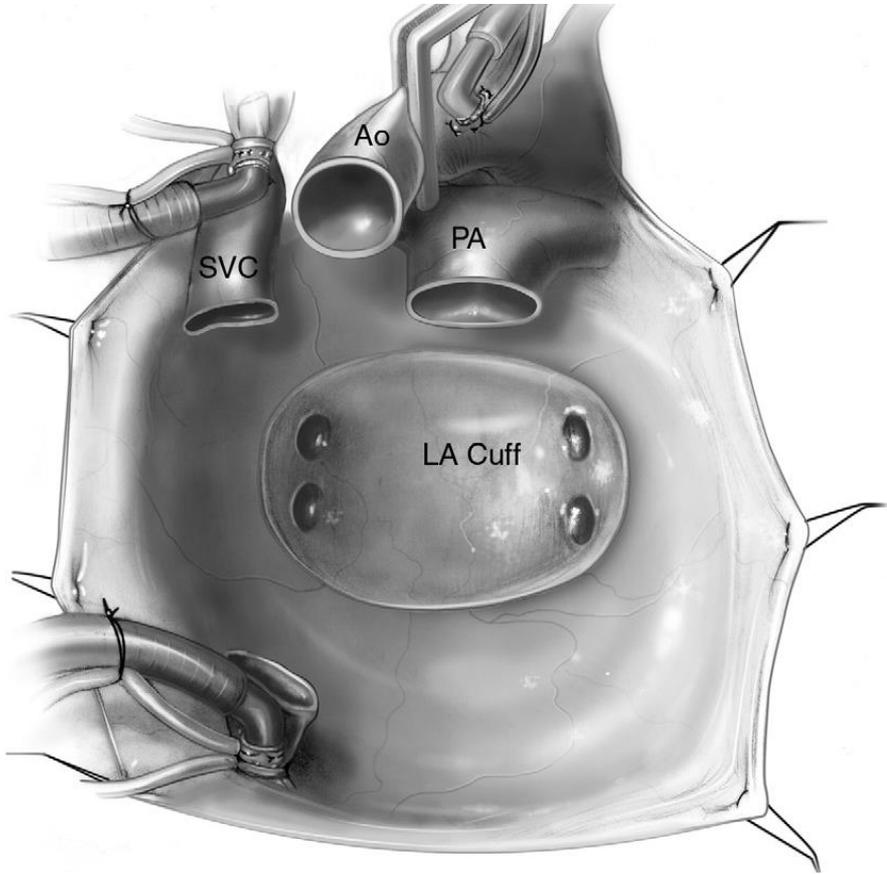


Surgery

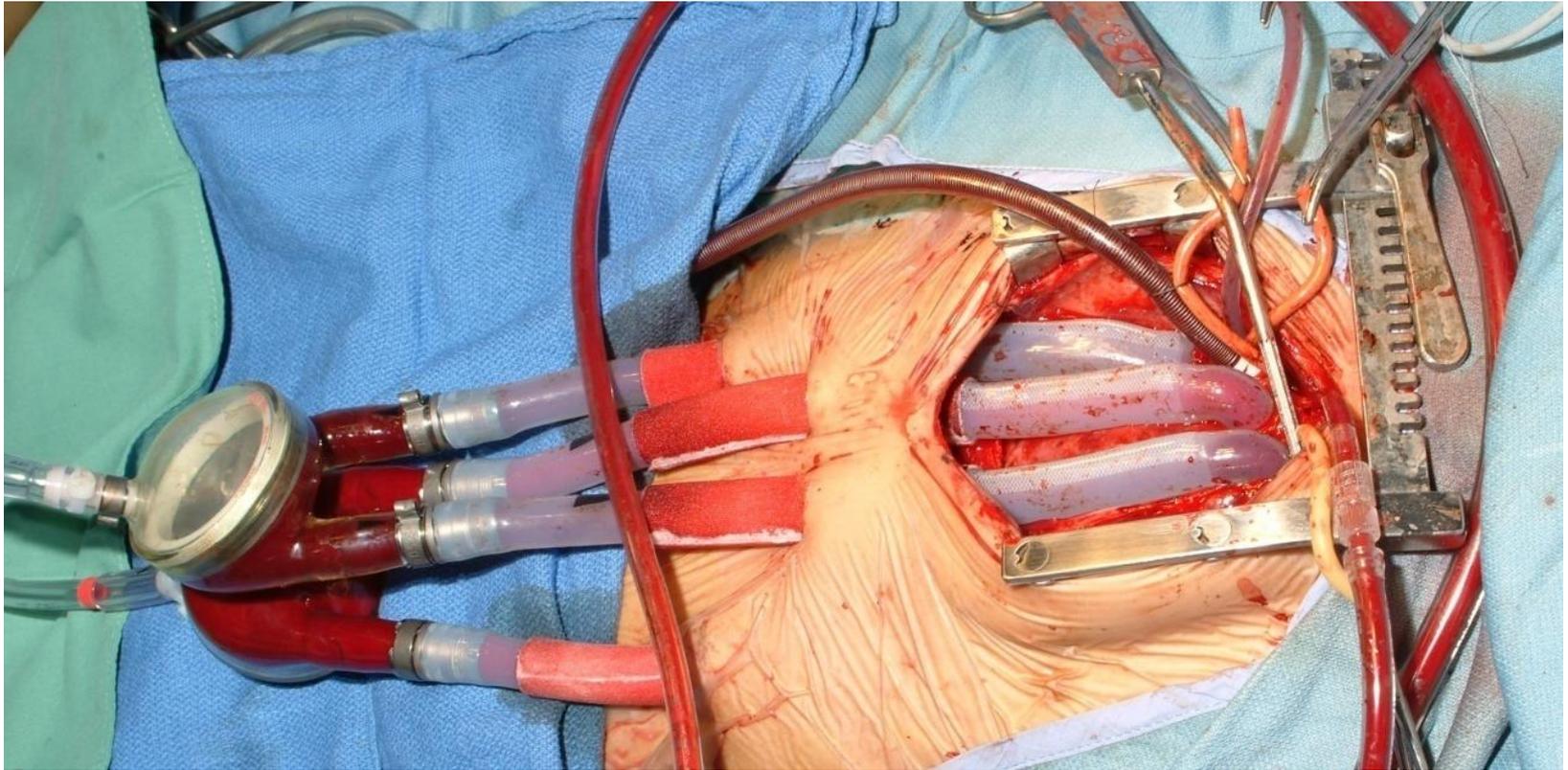
- Cardiomyopathy
- MCS
- Congenital cardiac

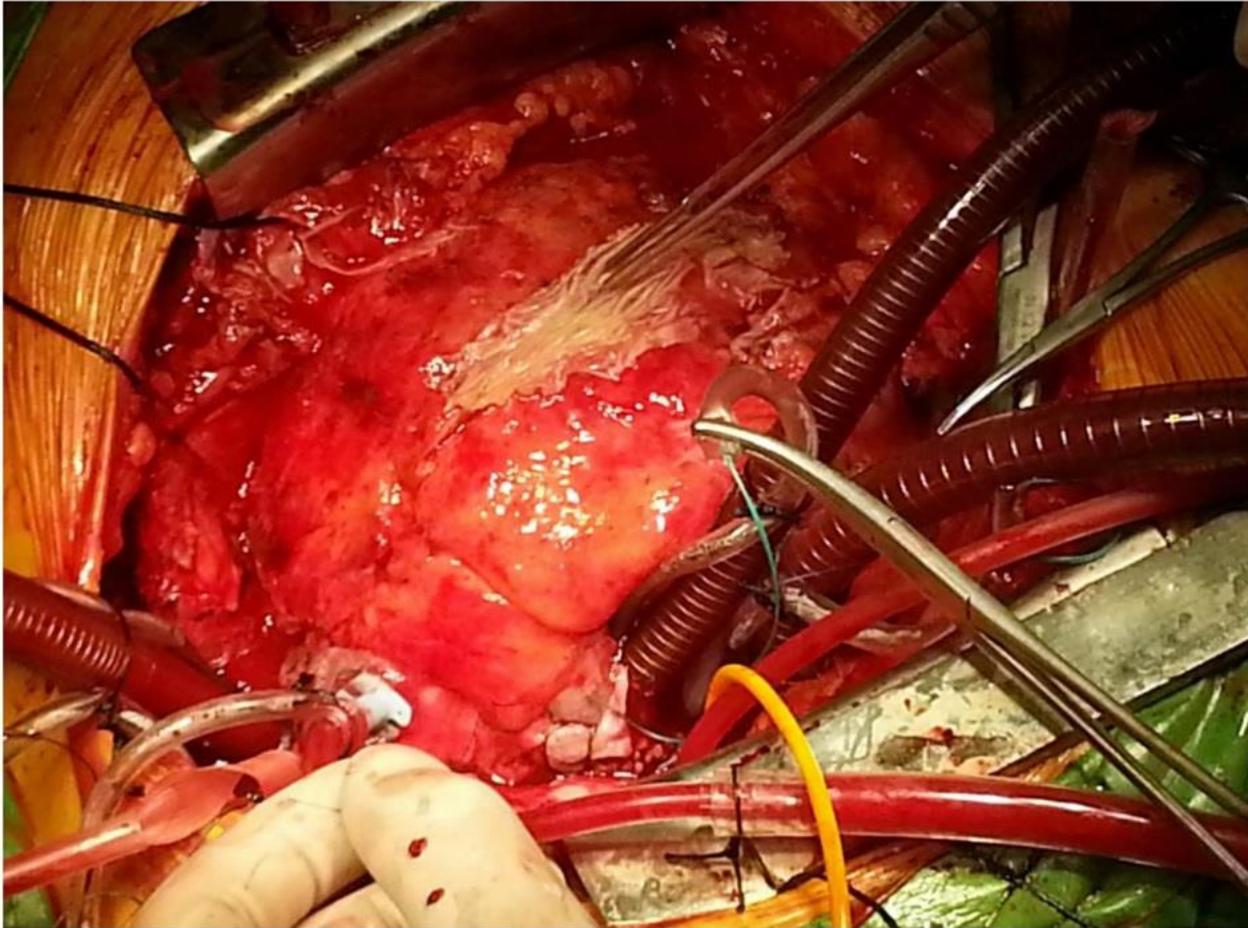
Cardiomyopathy

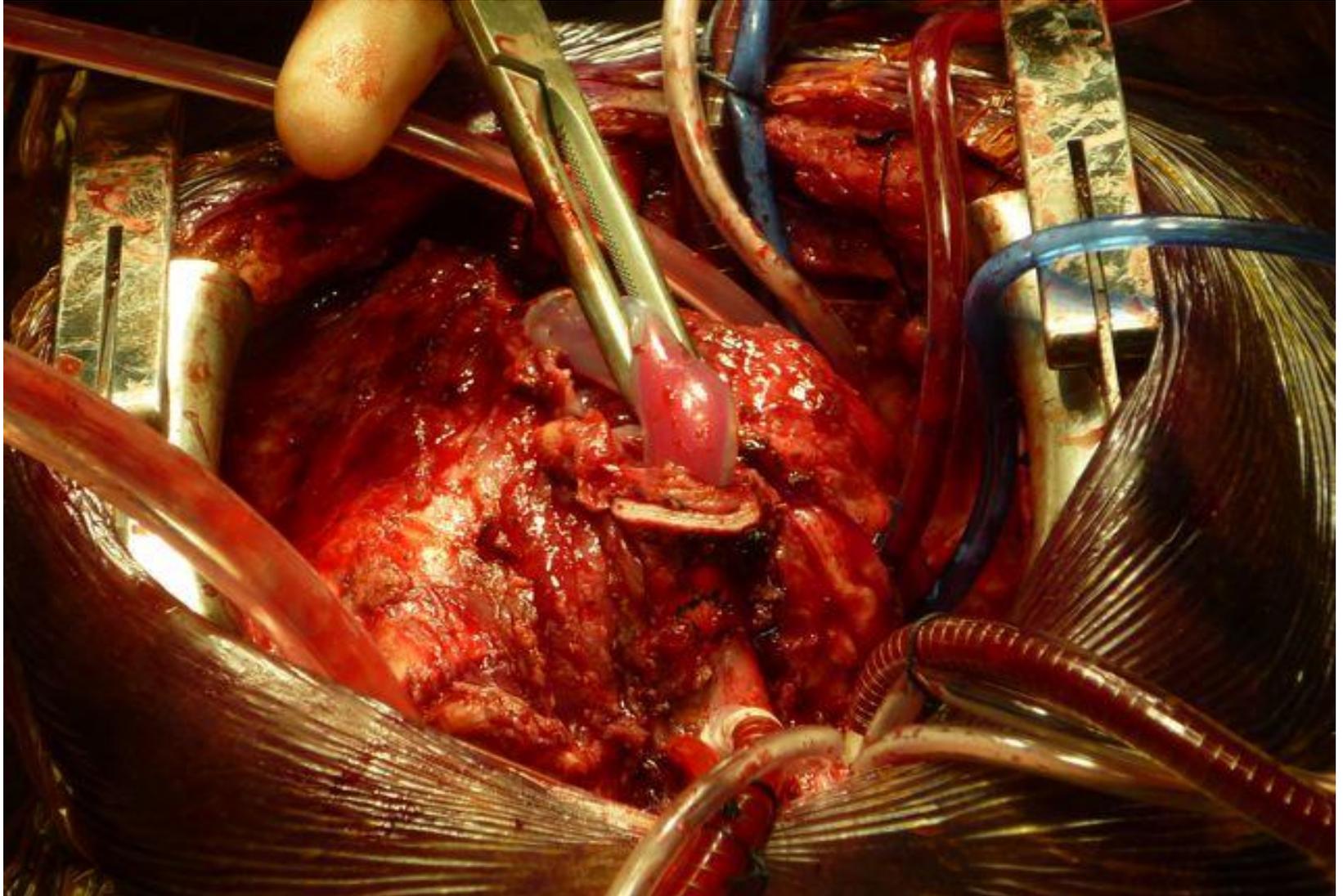


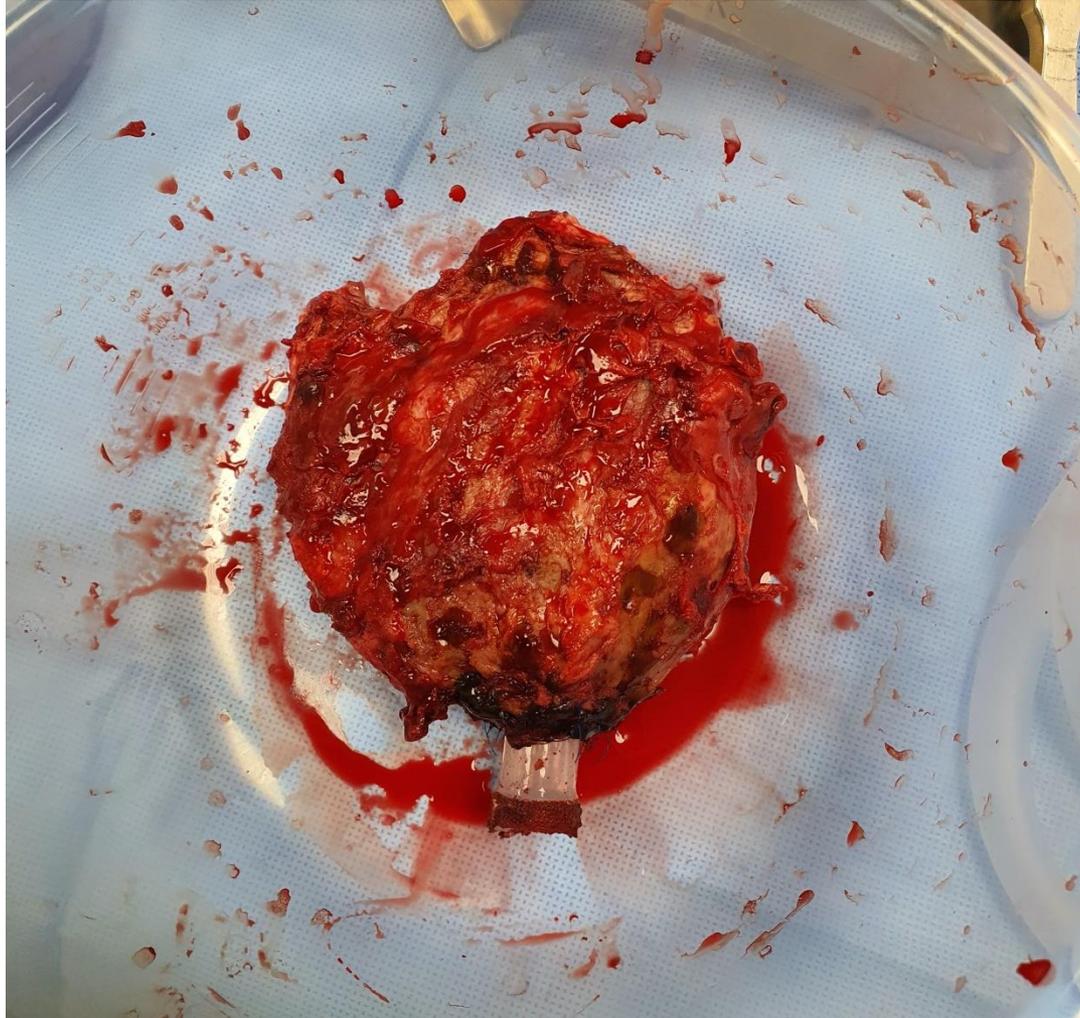


MCS



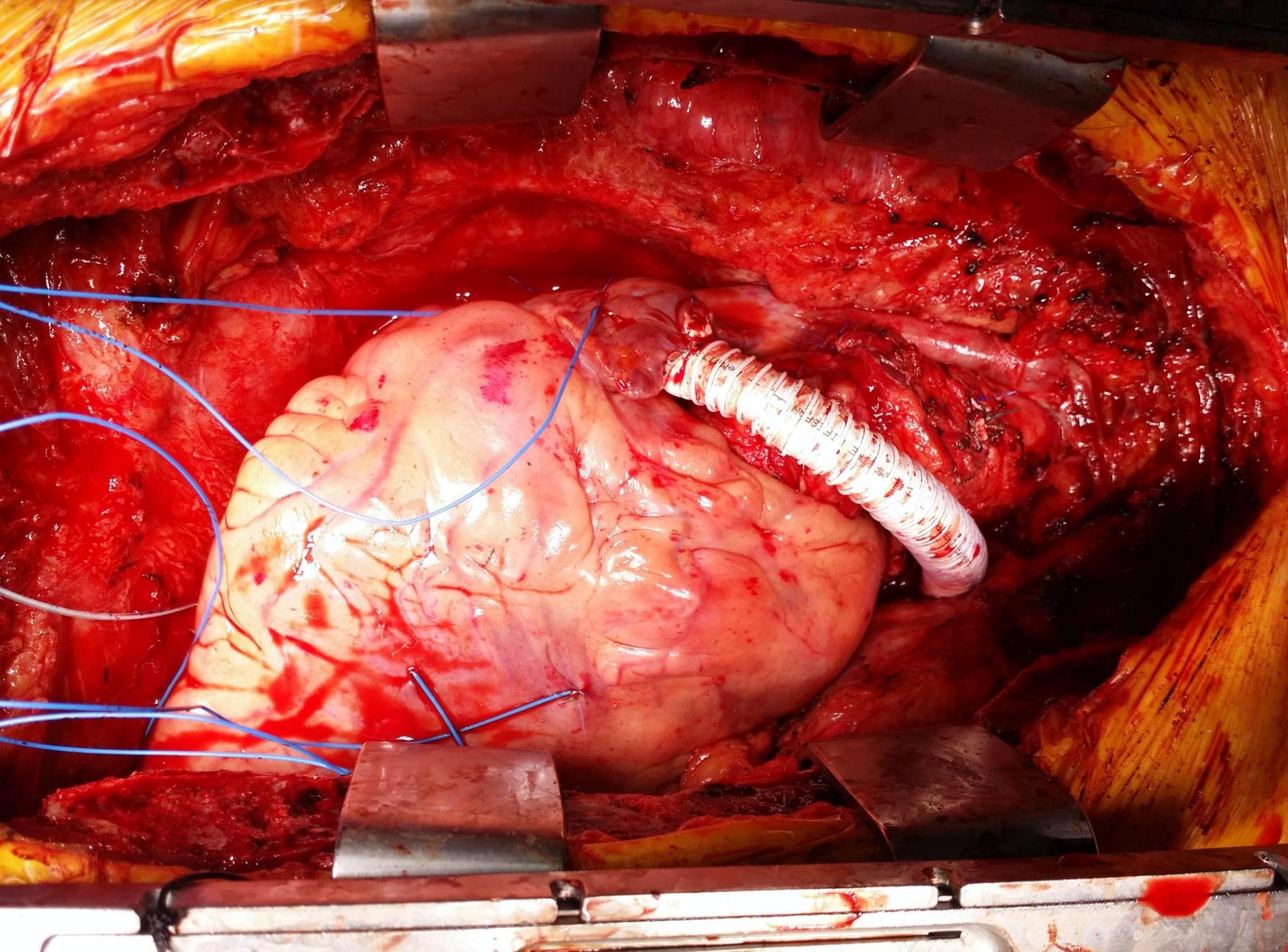




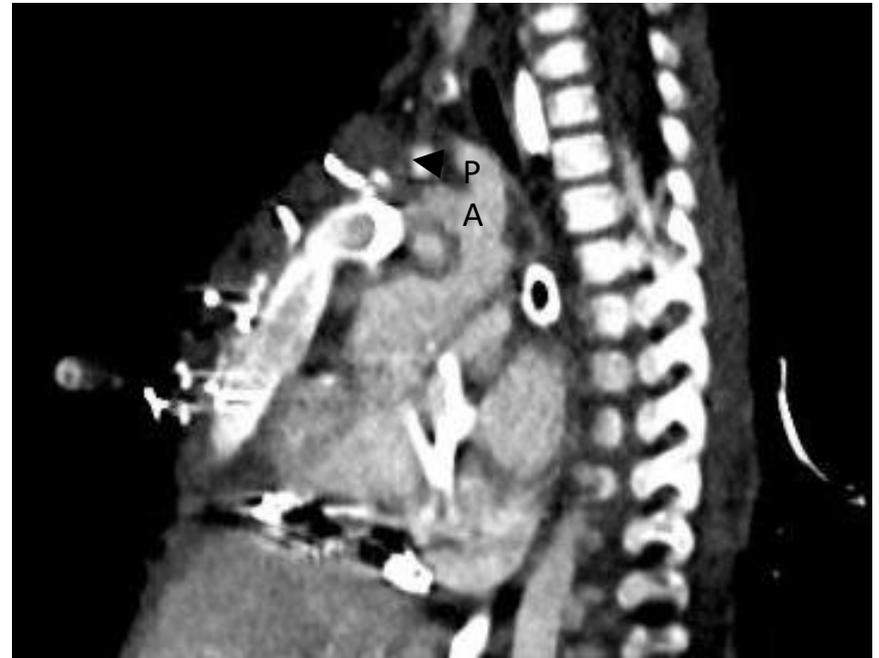


Congenital cardiac





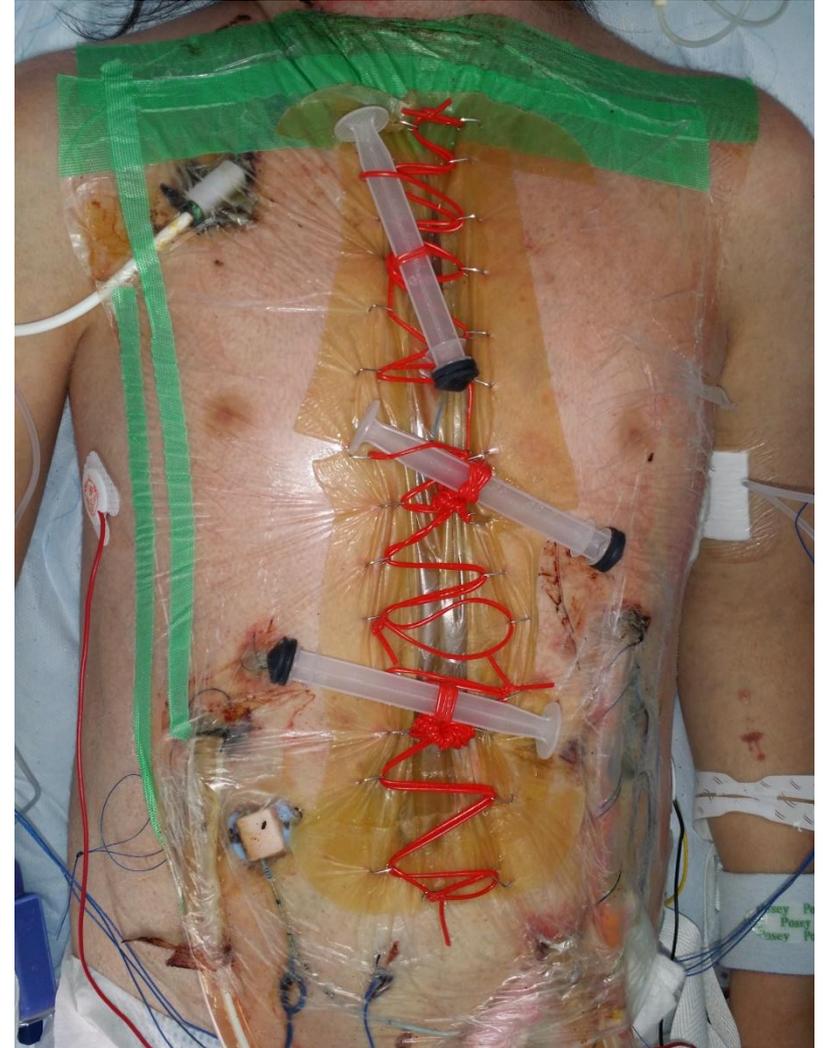
Post "*Lecompte manoeuvre*"



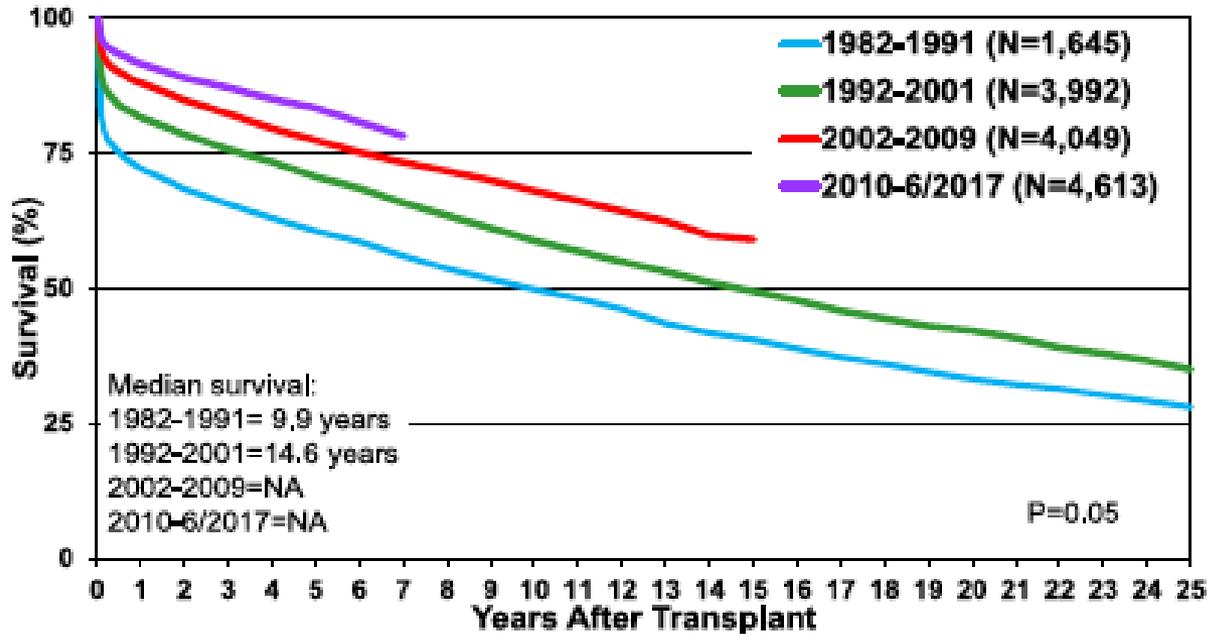


Pushing the Boundaries

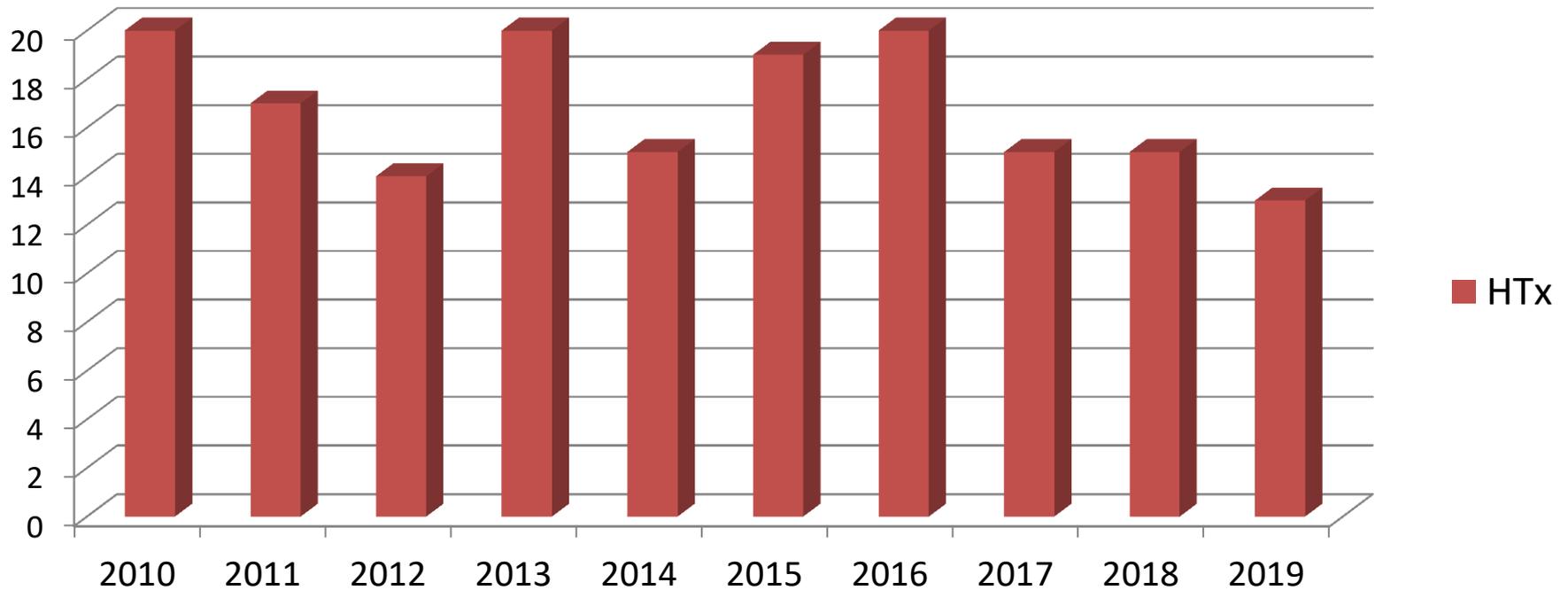




Results

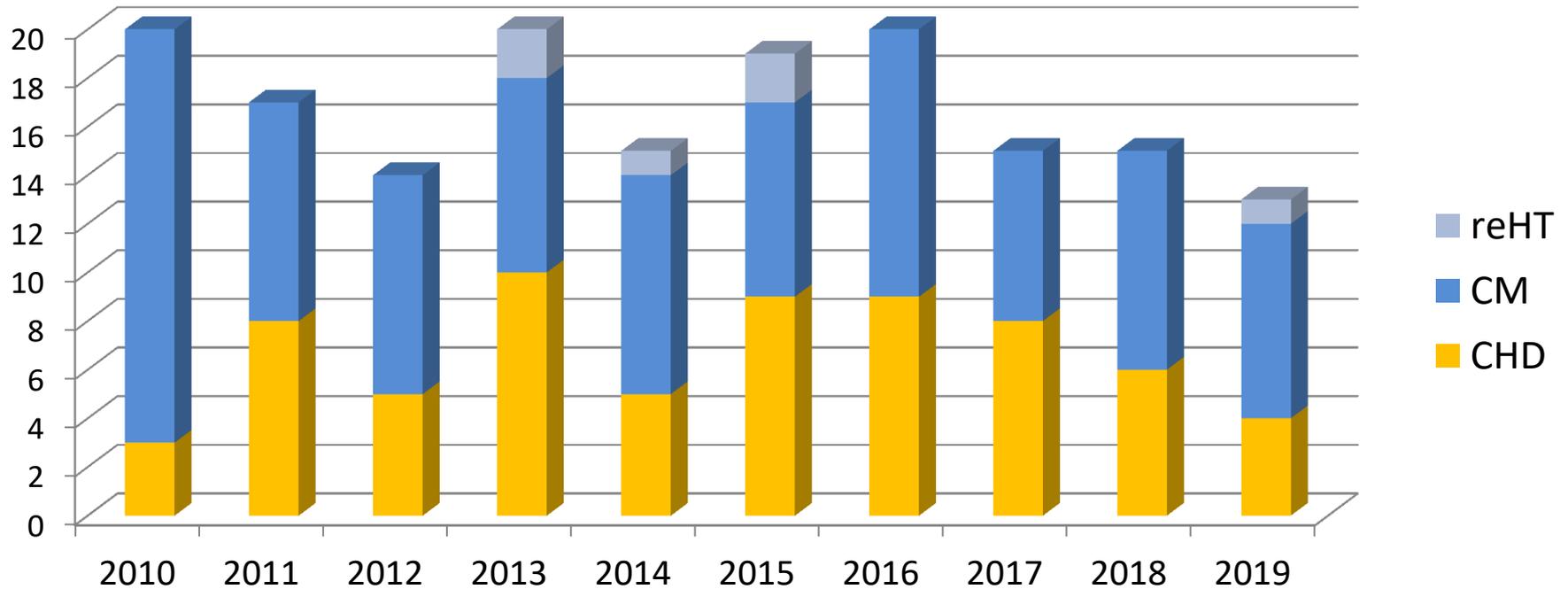


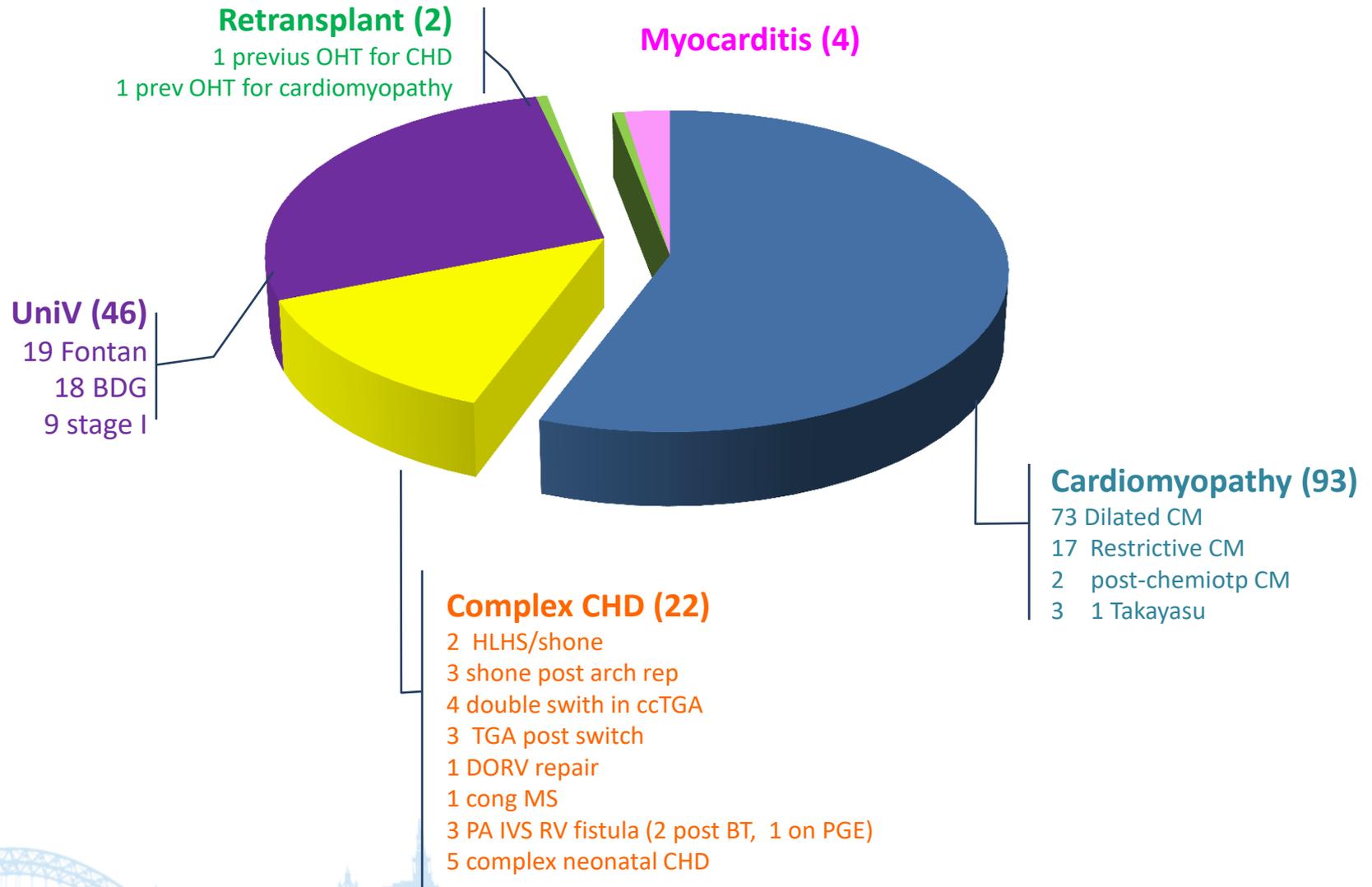
HTX 01/12/2009 – 31/12/2019





HTX 01/01/2010 – 31/12/2019







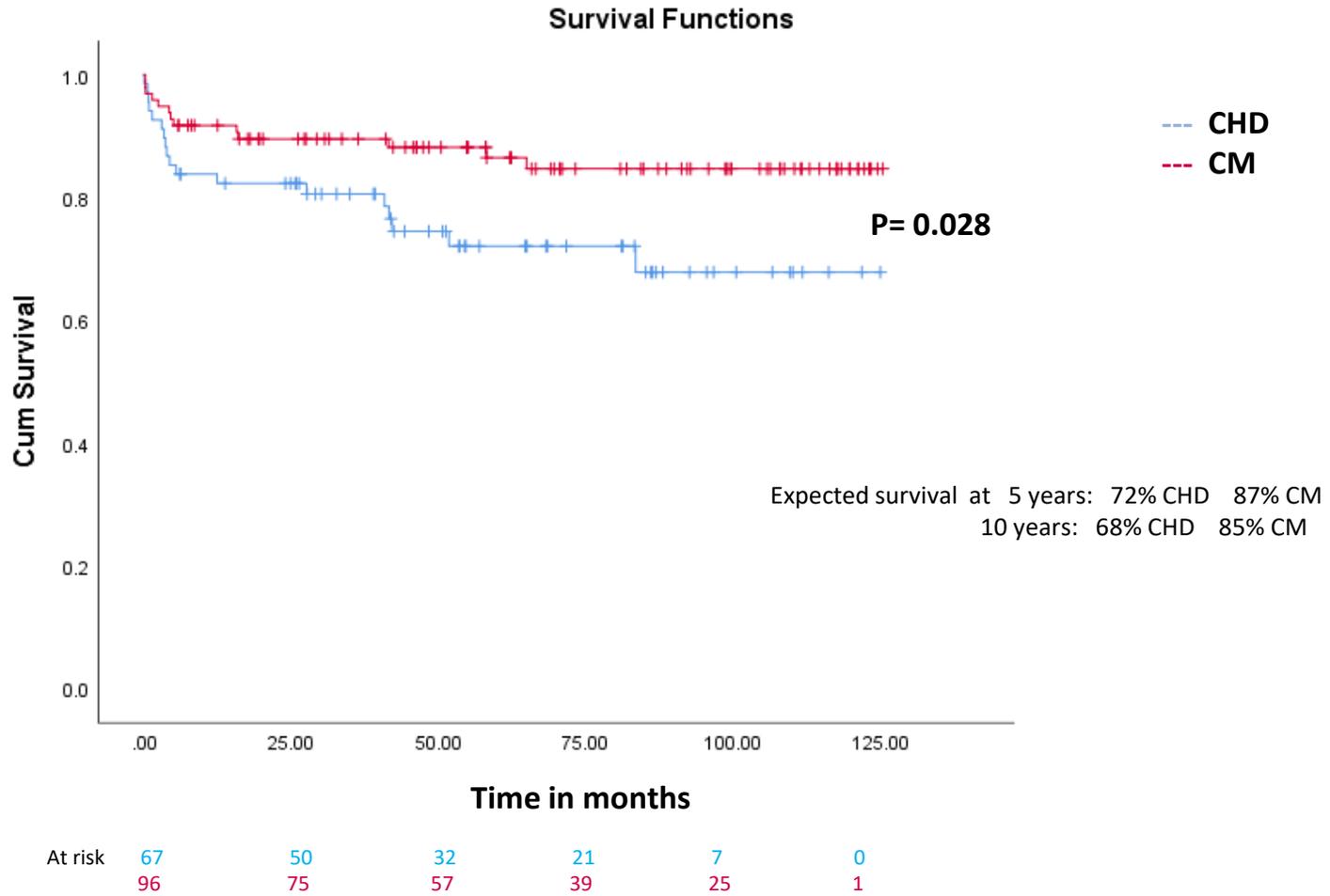
Preoperative characteristic	Total	CHD	Cardiomyopathy
Number of pts	165	68	97
Age (mean, range)	6,3 years (7 days – 17,3 years)	5,4 years (7 days- 16,7 years)	6,9 years (71 days-17,3 years)
Weight (mean, range)	21,9 kg (2,8– 66 kg)	19,2 Kg (2,8 - 65)	23,9 Kg (3-66 kg)
Sex (male)	86	41	45
Previous sternotomy		64	68
Ventilator dependent	46	21	25
Inotrops dependent	51	22	29
MCS dependent	85	13	72
LVAD	40	8	32
BiVAD	34	2	32
VA ECMO	11	3	8
for mean time	67,1 days (1-620days)	71,8 days (1-220 days)	62,2 days (3-620 days)
Urgen listed	147	54	91
Awaiting time	84,4 days	100,8 days	76 days





Post-operative	Total	CHD	Cardiomyopathy
Post op ECMO	48	23	25
Days on ECMO	5,8 (1-15)	5,9 (1-11)	5,8 (1-15)
PICU stay, mean (range) days	19 (2-104)	22,6 (4-104)	16,6 (2-86)
Hospital stay, mean (range) days	50 (12-171)	62 (18-171)	42 (12-115)
Deaths < 30 days	9	5	4
Deaths in hospital	14	8	6
Late deaths	9	6	3
Overall survival at FU (05/2020)	86 %	79,4%	90,7%





Thank you