FATE OF AORTIC VALVE IN SURGICAL MANAGEMENT OF TYPE A AORTIC DISSECTION

Thesis

For fulfillment of MD degree in
Cardiothoracic Surgery

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Mina Sameh Aiad

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ABBREVIATIONS

AA	Aortic annulus
AAA	Ascending aortic aneurism
ACC	American College of Cardiology
ACS	acute coronary syndrome
AHA	American Heart Association
AI	Aortic incomptence
AoD	Aortic dissection
AR	Aortic regurge
AVR	Aortic valve replacement
BAV	Bicuspid aortic valve
Bp	blood pressure
CABG	Coronary artery bypass and grafting
CNS	Central nervous system
COL3A1	type III collagen
CT	computed tomographic imaging
CVG	composite valve graft
CXR	chest x-ray
DM	Diabetes mellitus
ECG, EKG	electrocardiogram
echo	echocardiograph
ED	End diastole
EF	Ejection fraction
ES	End systole
FBN1	fibrillin-1
FL	False lumen
GERAADA	German Registry for Acute Aortic Dissection type A
HTN	Hypertension
ICU	Intensive care unit
IMH	Intramural hematoma
IRAD	The international registry of aortic dissection
LT	Left
LVH	Left ventricular hypertrophy
MAP	mean arterial pressure
Mfs	Marfan syndrome
MI	Myocardial infarction
MI	Myocardial infarction

MMPs	matrix metalloproteinases
MRI	magnetic resonance imageing
MV	Mitral valve
PAU	Penetrating atherosclerotic ulcer
RT	Right
STEMI	ST-elevation myocardial infarction
SVG	Saphenous vein graft
TAD	thoracic aortic disease
TCA	Total circulatory arrest
TD1	Tirone David 1
TEE	transesophageal echocardiogram
TEVAR	Thoracic endovascular aortic repair
TGFBR2	transforming growth factor-beta type II receptor
TL	True lumen
TTE	transthoracic echocardiogram

ABSTRACT

Objective—To assess the outcome of 3 different surgical approaches for treatment of aortic dissection type A. ***Methods and Results***—Between October 2012 and February 2014, we operated on 80 patients (pts) for acute and chronic aortic dissection . Follow-up was complete for 66 pts (82.5%). Supracoronary replacement of the ascending aorta was applied to 46 pts, 15 pts received a composite replacement (modified Bentall procedure), and 19 pts were treated with the aorta valve-sparing (Tirone David 1) reimplantation technique. Pts in SCR were older compared with TD and Bentall (P = 0.003), gender (overall 83.8% male, *P*=0.331) presence of BAV (overall 6.3% , p= 0.001) and presence of Marfan syndrome (overall 15%, *P*=0.001) were comparable. Arterial Cannulation more often via femoral artery (83.8%). Mean operation time, extracorporeal circulation time, and aortic cross-clamp time differ significantly between groups (*P= 0.010*, P=0.001 and P=0.013respectively). also Stay in the intensive care unit (*P*=0.022) and time of hospitalization (*P*=0.045) were comparable show significant difference. Overall perioperative mortality was 17.5% and did not show significant differences between groups (TD 21.1% versus Bentall 13.3% versus SCR 18.2%; *P*_0.842). Incidence of neurological complications was similar between groups (*P*=0.379). time of follow-up was 6 months post operative . Patients in TD and SCR groups required no reoperation for aortic valve failure.one patient in Bentall required reoperation of prothetic valve infective endocarditis. ***Conclusions***—In aortic dissection type A, the reimplantation technique leads to results comparable to established techniques (modified Bentall and supracoronary replacement). Complete removal of diseased tissue, low incidence of reoperation, and lack of anticoagulation may favour this approach in selected patients , supracoronary replacement is less surgically demanding and rapid technique and modified Bentall procedure is more foverable in aorto annular ectasia (marfan syndrome) and unhealthy aortic valve leaflets .

Key Words:

Aortic dissection _ reimplantation _ aorta _ valve reconstruction _ composite replacement