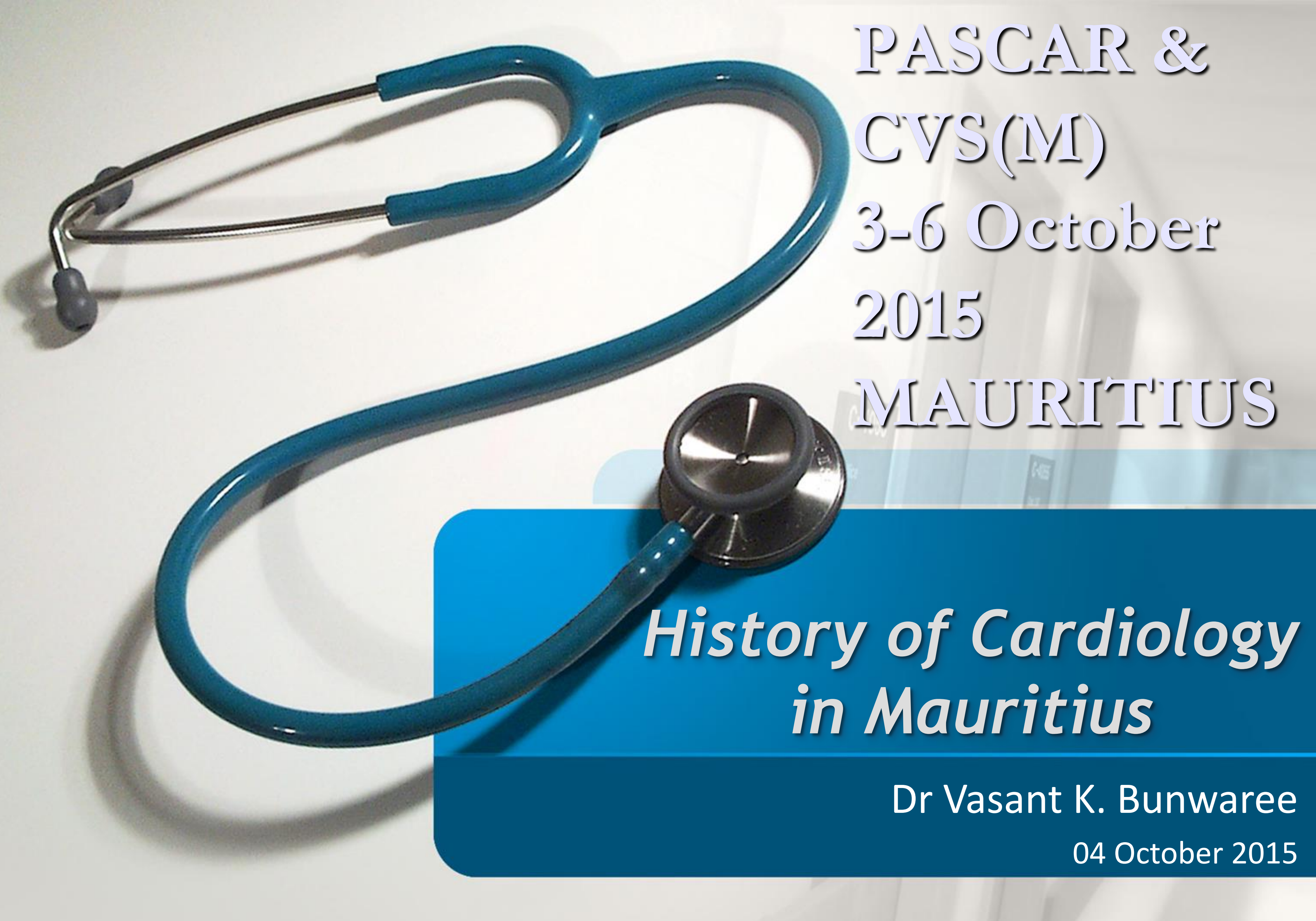

PASCAR &
CVS(M)
3-6 October
2015
MAURITIUS
History of Cardiology in Mauritius
Dr Vasant K. Bunwaree
04 October 2015

Cardiac Unit – Victoria Hospital

- 1982: 1 adviser in Cardiology on contract and 2 Cardiologists in Mauritius
- Before 1982 all cardiac problems taken care of by physicians in medical units
- Main cardiac issues:
  - Ischemic heart disease
  - Infective endocarditis
  - Rheumatic fever
  - Heart failure

Infrastructure Available

Cardiac ICU: only one in Victoria Hospital

- Basic Cardiac monitors
- Defibrillators
- TM Echo
- Stress test
- X-ray

Day ward with 10 beds, with curtains

2
ECG ROOM

TM Echo

1983

MINISTRY OF HEALTH

History and Continuation Sh

Date	TM ECHO
[illegible]	[redacted] M 8/12 NO [illegible] TM ECHO done by Dr [illegible].

MINISTRY OF HEALTH

History and Continuation S

Date	TM Echo

Patient's care

- Acute Myocardial infarction:
  - Heparine
  - Aspirine
  - BB
  - ACE-inhibitors
  - Nitrates
- No thrombolysis, No PCI, No IABP
- Valvular heart problems:
  - Mitral stenosis: comissurotomies done by general surgeons
  - Transfer to South Africa or India for surgery
- Strong prevalence of endocarditis and RF because of lack of proper use of antibiotics

Inaugural Open Heart Surgery in Mauritius

Prof. Hassan Raffa and Saudi team
1984

30 patients operated

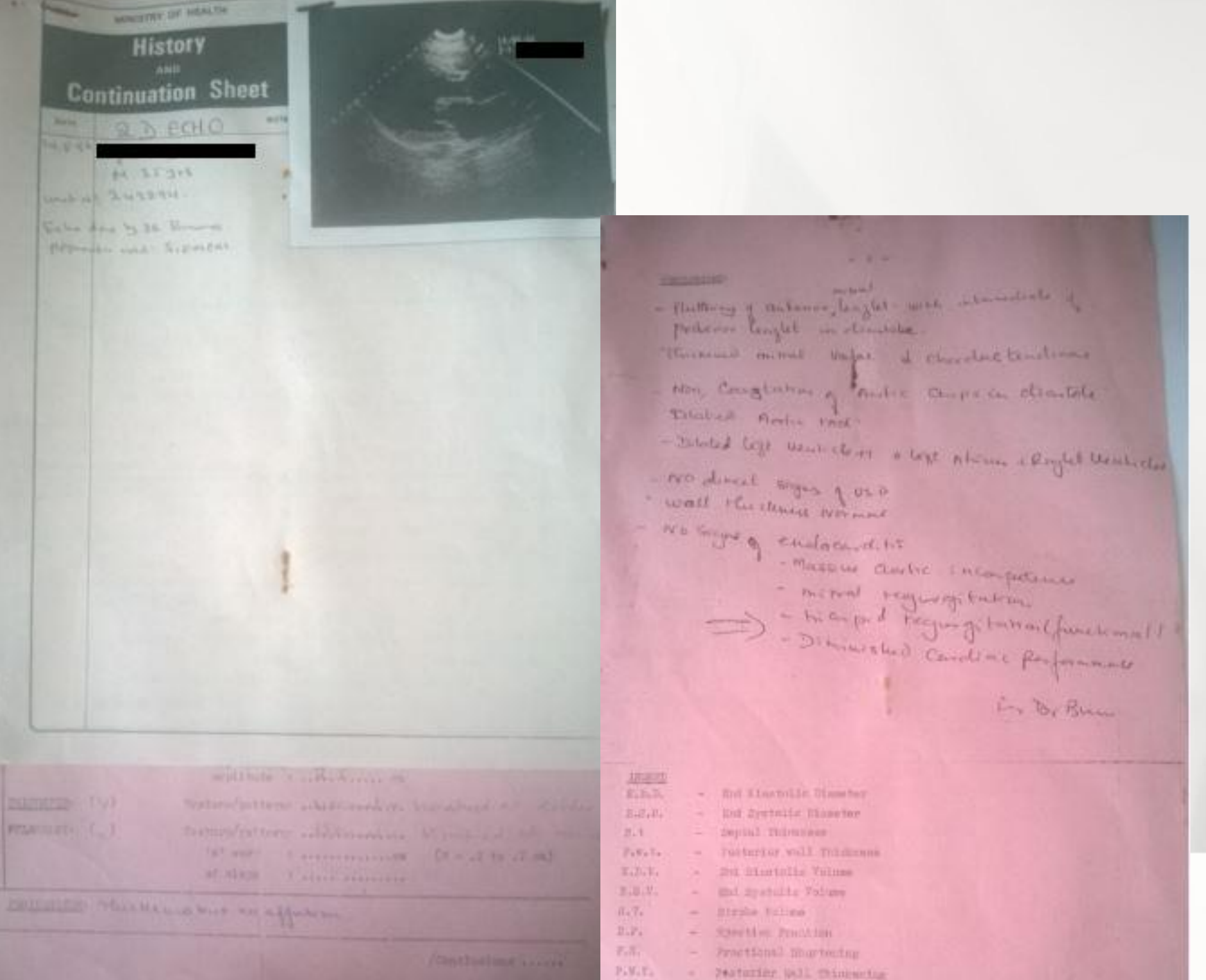
Setting up of an independent cardiac unit at SSRNH

Dr. Vasant K. Bunwaree

June 1986

2D Echography

1986 →



MINISTRY OF HEALTH

History and Continuation Sheet

2 D ECHO

CONCLUSION

- Fluttering of anterior mitral leaflet with intermediate of posterior leaflet in diastole
- Thickened mitral valve & chordae tendineae
- Non coaptation of aortic cusps in diastole
- Dilated aortic root
- Dilated left ventricle & left atrium & right ventricle
- No direct signs of VSD
- Wall thickness normal
- No signs of endocarditis
  - Massive aortic incompetence
  - Mitral regurgitation
  - Tricuspid regurgitation (functional)
  - Diminished cardiac performance

for Dr. B

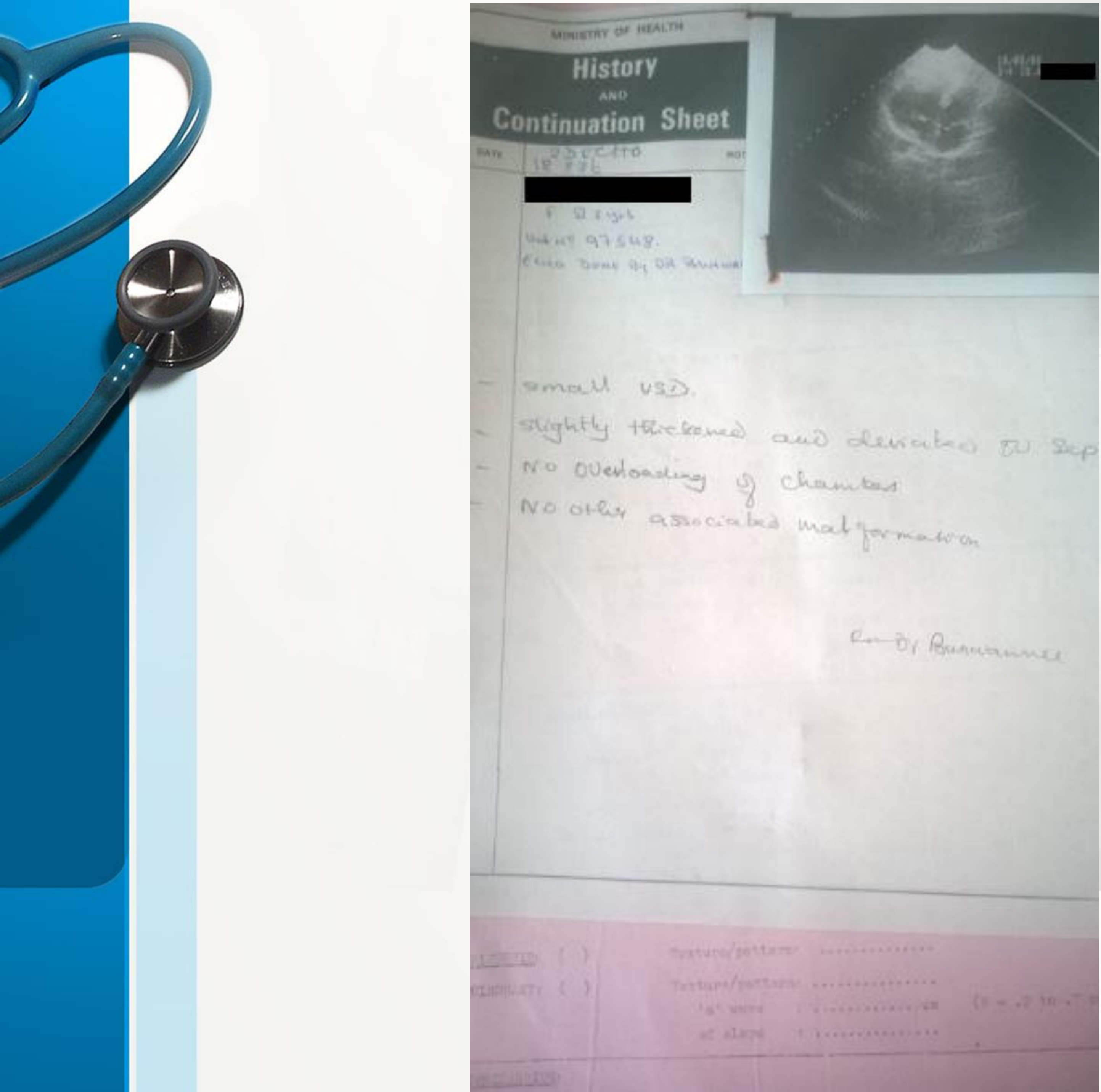
LEGEND

E.D.D. – End Diastolic Diameter
E.S.D. – End Systolic Diameter
S.T. – Septal Thickness
P.W.T. – Posterior Wall Thickness
E.D.V. – End Diastolic Volume
E.S.V. – End Systolic Volume
S.V. – Stroke Volume
E.F. – Ejection Fraction
F.S. – Fractional Shortening
P.W.T. – Posterior Wall Thickening
EPSS – E-Point Septal Separation
CPSS – C-Point Septal Separation

MINISTRY OF HEALTH

History and Continuation Sheet

- small VSD
- slightly thickened and deviated IV septum
- No overloading of chambers
- No other associated malformation



MINISTRY OF HEALTH

History AND Continuation Sheet

DATE

Echo done by Dr

- small VSD.
- slightly thickened and deviated IV Sep
- No overloading of chambers
- No other associated malformation

Texture/pattern: ....

Texture/pattern ....

MINISTRY OF HEALTH

History and Continuation Sh

Date	2 D ECHO
7/4/[illegible]	2 D ECHO done by Dr. [illegible]
	R-V = Pulmonary Artery
	L-V but VERY THICK
	causing L.V.O.T obstruction
	VSD
	seem to exist only one
	with only one A-V
	mostly the L.V but
	hypotrophic R.V.
	Aorta
	I.V.C opening in a huge
	congested hepatic
	- Unique Atrium
	- Unique A-V Valve
	- Hypotrophic R.V & P.A
	- Overriding Aorta
	[illegible]

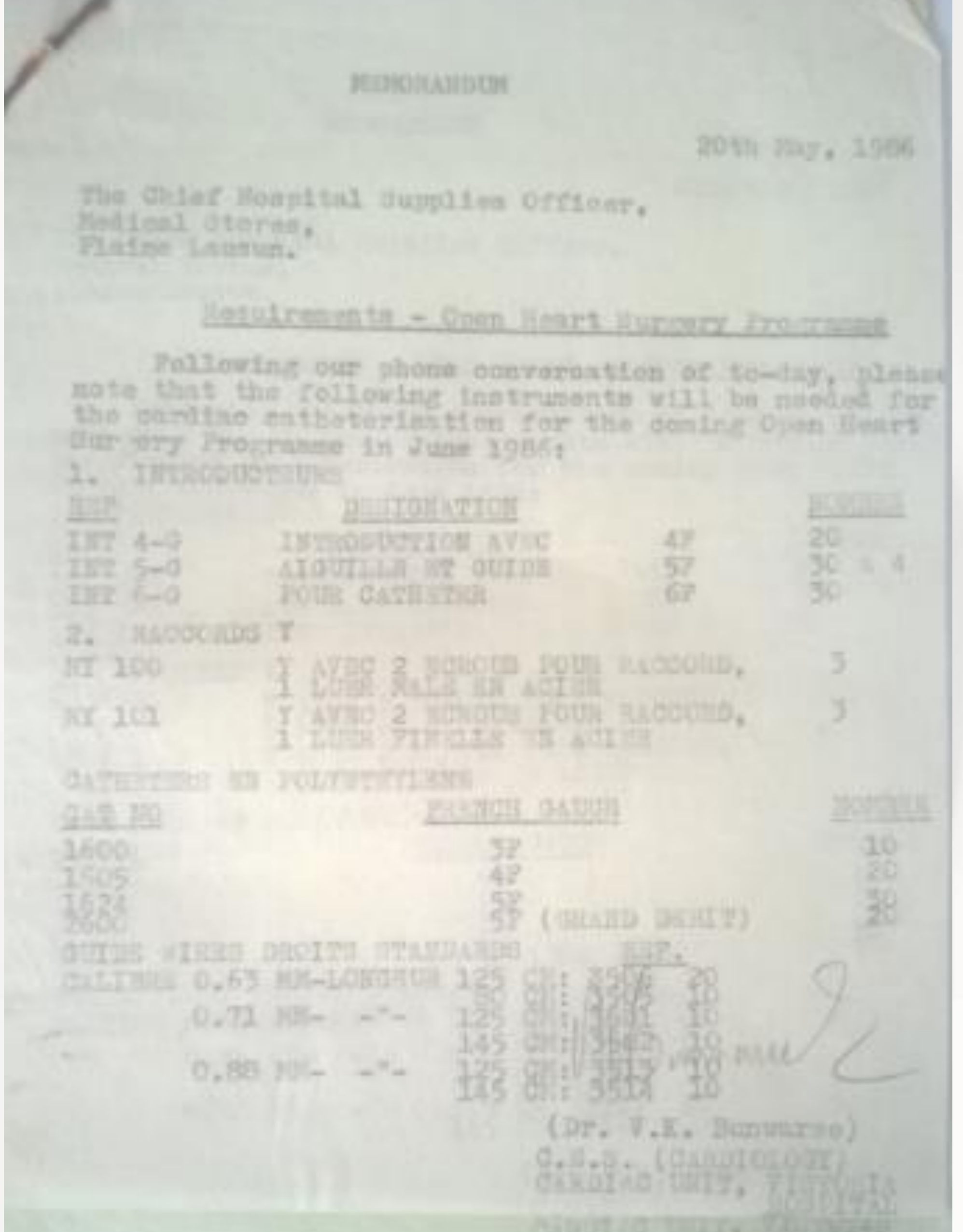
1986
Organisation of 2 cardiac surgery sessions

Prof. Alain Cerene (June-July 1986)
Prof. Hassan Raffa (Aug-Sept1986)

Prof. Alain Cerene

June-July1986

Order for paediatric catheters for catheterisation



MEMORANDUM

20th May, 1986

The Chief Hospital Supplies Officer,
Medical Stores,
Plaine Lauzun.

Requirements - Open Heart Surgery Programme

Following our phone conversation of to-day, please note that the following instruments will be needed for the cardiac catheterisation for the coming Open Heart Surgery Programme in June 1986:

1. INTRODUCTEURS

REF	DESIGNATION		NOMBRE
INT 4-G	INTRODUCTION AVEC	4F	20
INT 5-G	AIGUILLE ET GUIDE	5F	30
INT 6-G	POUR CATHETER	6F	30

2. RACCORDS Y

RY 100	Y AVEC 2 BONCHON POUR RACCORD, 1 LUER MALE EN ACIER	3
RY 101	Y AVEC 2 BONCHON POUR RACCORD, 1 LUER FEMELLE EN ACIER	3

CATHETERS EN POLYETHYLENE

CAT NO	FRENCH GAUGE	NOMBRE
1600	5F	10
1505	4F	20
1624	5F	30
2600	5F (GRAND DEBIT)	20

GUIDES WIRES DROITS STANDARDS

CALIBRE	LONGUEUR	REF.	
0.63 MM	125 CM:	3506	20
	50 CM:	3505	10
0.71 MM	125 CM:	3601	10
	145 CM:	3602	10
0.88 MM	125 CM:	3513	10
	145 CM:	3514	10

(Dr. V.K. Bunwaree)
C.M.S. (CARDIOLOGY)
CARDIAC UNIT, VICTORIA HOSPITAL

Aug. 1981
82%
94%
97%
89%
91%
91%
82%
93%
91%
90%
68%
76%
70%
82%
75%
74%
75%
64%
74%
76%
78%
P.D.A.
81%
77%
80%
74%
77%
78%
73%
73%

MINISTRY OF HEALTH

OPERATION SHEET

5 juillet 1966

Surname	[redacted]	Ref. No. [illegible]
Other names	[redacted]	Date of birth: 7 years
Ward/Dept	Sex: M	[illegible]

[illegible] POIDS: 15 kgs

COMPTE RENDU OPERATOIRE

Intervention pratiquée le 25 juin 1966.

Equipe Medicale: Professeur J. [illegible]
Dr. Y. [illegible]
Dr. Mme D. [illegible] (Anesthesiste)

Diagnostic: Communication inter ventriculaire type 2 B.

Intervention prevue: fermeture par Patch [illegible].

[illegible] arterielle radiale gauche veineuse jugulaire interne droite.

Sternotomie mediane. Ouverture du pericarde. Cavites droites tres hypertrophiques. Grosse artere pulmonaire tendue. Canulation aorte ascendante. Canule [illegible] 18 mm. Canulation des deux caves. Depart circulation extra corporelle. Hypothermie: 26°C. Clampage aortique. Decharge gauche introduite dans l'oreillette gauche par la veine pulmonaire superieure droite. Cardioplegie injectée dans la racine de l'aorte.

Ventriculotomie droite au niveau de l'infundibulum longitudinale faite a proximite de l'interventriculaire anterieure en raison de la presence d'une [illegible] d'infundibulum. Cette ventriculotomie a environ 5 cms de long.

On apercoit une large communication inter ventriculaire de 2.5 cms de diametre sous aortique membraneuse. Fermeture par 11 points en U renforcé de pledjets de [illegible] places a distance du rebord de la communication dans la zone posterieure et inferieure et superficielle dans la zone aortique.

Purge [illegible] du ventriculaire gauche avant fermeture complete.

Fermeture de l'aortotomie par surjet [illegible] 3.0.

Purge [illegible]. Declampage aortique. Durée du clampage: 54 minutes. Reprise spontanée de l'activite cardiaque avec au debut un rythme [illegible] ventriculaire puis retablissement du rythme sinusal.

By-pass partiel. [illegible] decharge gauche. Coeur efficace. Arret circulation extra corporelle sans probleme.

[illegible]. [illegible]. [illegible]. Drain pericardique. Fermeture du pericarde. Drain mediastinal. Fermeture parietale.

MINISTRY OF HEALTH

OPERATION SHEET

3 Juillet 1966

Surname [redacted]			Unit No. [illegible]
Other names [redacted]			Date of birth 13 years
Ward/Dept.	Sex M	Religion [illegible]	Civil state [illegible]
[illegible]		POIDS: 33 kgs	

COMPTE RENDU OPERATOIRE

Intervention pratiqué le 30 juin 1966.

Equipe Medicale: Professeur A. [illegible]
Dr. Y. [illegible]
Dr. Mme [illegible] (Anesthesiste)

Diagnostic: Sinus Venosus

Intervention prevue: Fermeture de la communication inter auriculaire haute en derivant le sang venant de la veine pulmonaire superieure droite vers l'oreillette gauche. Patch [illegible].

Monitorisation pression arterielle radiale gauche, veineuse jugulaire interne droite.

Sternotomie mediane. Ouverture du pericarde. La zone d'abouchement dans l'oreillette droite de la veine cave superieure est tres elargie et on apercoit une grosse veine pulmonaire superieure droite se drainant dans cette veine cave superieure.

Canulation aorte ascendante. Dissection de la zone de la veine pulmonaire mis en place d'une lacette entre la veine azygos et veine pulmonaire superieure droite. Bourse faite au niveau de la veine cave superieure au dessus de la zone d'abouchement de la veine pulmonaire. Bourse faite dans la zone d'abouchement de la veine cave inferieure. Canulation des deux caves par les deux bourses. Depart circulation extra corporelle. Hypothermie: 26° C. Clampage aortique. Cardioplegie injectee dans la racine de l'aorte. Ouverture de l'oreillette droite oblique vers la veine cave superieure mais s'arretant a distance du noeud sinusal.

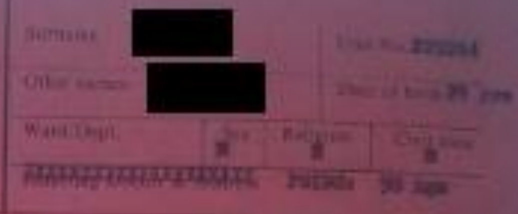
On apercoit une communication inter auriculaire entre deux rebords superieurs d'environ 2 cms de diametre. La veine pulmonaire superieure droite se draine dans la veine cave superieure.

/Mis en place ......

MINISTRY OF HEALTH

OPERATION SHEET

27 juin 1986


Surname
Other names
Ward/Dept.

COMPTE RENDU OPERATOIRE

Intervention pratiquée le 24 juin 1986.

Equipe Médicale: Professeur A. [illegible]
Dr. Y. [illegible]
Dr. Mme H. Lamine (Anesthésiste)

Diagnostic: Maladie aortique associée a une maladie mitrale d'une insuffisance tricuspidienne. Hypertension artère pulmonaire importante.

Technique et Constatations Opératoires

Intervention prevue: remplacement valvulaire mitral Starr 3M. Remplacement valvulaire aortique Prothese Hall-Kaster Medtronic 21 mm. Plastie mitrale selon la technique de De-Vega.

Monitorisation pression arterielle radiale gauche, pression veineuse jugulaire interne droite.

Sternotomie mediane. Ouverture du péricarde. Cavité droite extremement distendue. Bourse oreillette gauche. Canulation aorte ascendante. Toucher tricuspidien faite d'origine fonctionnelle centrale de grade [illegible]. Canulation des deux caves par une bourse commune faite au niveau de l'auricule droite. Depart circulation extra corporelle. Hypothermie: 28° C. Clampage aortique. Atriotomie droite oblique vers la veine cave inferieure a partir de la fosse ovale. Aortotomie transversale oblique vers le sinus non-coronaire.

Cardioplegique injectée dans les deux orifices coronariens.

Valve mitrale extrêmement remaniée, calcifiée, orifice centrale retréci a 0.8 [illegible] Cordage totalement retracté. Resection ensemble de l'appareil mitral et fixati[illegible] par 12 points en X tiercon 2.0 d'une prothese de Starr a billes 3 M.

Fermeture de la cloison inter auriculaire par 3 points simples en haut et surj[illegible] en bas tiercon 2.0. Decharge gauche a l'oreillette gauche a travers les points separes non-serrés.

Deuxieme cardioplegique injectée dans les orifices coronariens.

Valve aortique tricuspide fibreuse chondroide retractée. Resection de cette valve et fixation par 14 points en U. Renforcé de pledgets en teflon bioprot[illegible] mechanique Medtronic de 21 mm. Le teflon est placé coté ventriculaire partout sauf au niveau du sinus non-coronaire ou il est supra annulaire. /Centrale.

SIR SEEWOOSAGUR RAMGOOLAM NATIONAL HOSPITAL
PAMPLEMOUSSES
MAURITIUS

Ref: ______________ Le 22 juillet 1986

VH 54586;

SSRN 240254

Le Specialiste Responsable,
Medical Unit,
Victoria Hospital,
Candos.

Mon cher confrere,

Voici des nouvelles de votre malade ████████, agée de 19 ans, qui a beneficié de la chirurgie a coeur ouvert au mois de juin dernier.

Cette malade était porteuse, comme vous le savez, d'un retrecissement mitral serré a valve souple. Ceci a été confirmé lors de la phase d'observation per-operatoire. L'appareil sous valvulaire était egalement souple. Tout ceci a donc permis une simple commissurotomie a coeur ouvert qui a été realisée par le Professeur [illegible] le 19 juin dernier.

Les suites operatoires et post-operatoires n'ont causé aucun probleme majeur. La malade a sejourné une douzaine de jours a l'hopital et elle a quitté le service le 1er juillet dernier.

L'examen ce jour montrait un bon etat general, une tension arterielle a 100/60, des pouls reguliers a 84/minute, une temperature a 37,1°C.

L'auscultation cardiaque faisait entendre des bruits de coeur reguliers, un souffle systolique apexo-axillaire d'intensité 1/6. Le deuxieme bruit pulmonaire était legerement accentué. Le reste de l'examen clinique n'était pas significatif.

Sur le plan de la radiothoracique, on notait une cardiomegalie avec debord de l'arc inferieur droit, un double contour auriculaire et un ventricule gauche legerement dilaté.

L'electrocardiogramme montrait un rythme sinusal, un espace PR a 0,14 seconde, un axe de QRS a + 90°; une hypertrophie auriculaire gauche (onde P pointue et bifide en D_2, 0.10 seconde), des ondes T negatives de V_1 a V_3.

Sur le plan therapeutique, lors de la sortie, la malade prenait des diuretiques et avait eu une injection de penadure.

J'ai revu cette malade en consultation post-operatoire a l'hopital Sir Seewoosagur Ramgoolam le 8 et le 22 juillet derniers. La malade était dans une condition generale excellente. L'auscultation faisait entendre le meme souffle systolique apexo-axillaire evocateur d'une petite fuite mitrale. Il n'existait pas de souffle diastolique. La cicatrice operatoire était tres bien guerie.

.../2

Le 14 Aout 1986.

La Specialiste Responsable,
Medical Unit

Mon cher confrere,

Voici des nouvelles de votre malade [redacted] qui a ete operee par le Professeur Carena.

Cette malade etait porteuse, comme vous le savez, d'un retrecissement mitral serre. L'intervention etait pratiquee le 25 juin dernier et les donnees peri-operatoires ont montre une valve mitrale extremement abimee empechant par la meme toute conservation de cette valve qui a donc ete changee et remplacee par une bioprothese Carpentier-Edwards.

Les suites operatoires, tant a l'unite des soins intensifs qu'en salle, n'ont ete marquees d'aucun incident majeur.

Cette malade a quitte le service le 4 juillet dernier. L'examen de ce jour montrait un tres bon etat general, une tension arterielle a 115/70, des pouls reguliers a 92/minute, une temperature a 36,5°.

L'auscultation cardiaque faisait entendre des bruits du coeur reguliers, un premier bruit fort a l'apex accompagne d'un souffle systolique d'intensite 4/6 <u>apexo axillaire</u>. Il existait aussi un petit frottement pericardique localise. Le reste de l'examen clinique ne montrait rien de significatif.

La radiothoracique montrait un volume cardiaque normal mais il existait un double contour de l'arc inferieur droit, une saillie du tronc de l'artere pulmonaire et de l'auricule gauche; la <u>trame</u> pulmonaire etait legerement accentuee et la bioprothese etait visible.

Sur le plan electrocardiographique, on notait un rythme sinusal, un espace PR a 0,20 seconde, un axe QRS a + 100°, une hypertrophie auriculaire gauche moderee (onde P bifide en D_2), une onde rV_1 de 5 mm.

Elle nous quittait donc avec un traitement a base de digitale-diuretique associe a du fer et de l'acide folique pour une petite anemie et pesadure.

Je l'ai revue a l'hopital Sir Seewoosagur Ramgoolam plusieurs fois dans l'espace de trois semaines a cause de son anticoagulation que j'ai demarree pour cette prothese biologique et qui devra etre maintenue pendant environ trois mois, si tout va bien, bien entendu, et si la malade reste en rythme sinusal.

.../2

le 16 aout 1986.

Le Specialiste Responsable,
Medical Unit,

Mon cher confrere,

Voici des nouvelles de votre malade [redacted] agee de 22 ans, qui a ete operee par le Professeur [illegible] le 10 juin 1986 dernier pour une maladie mitrale avec predominance de stenose et associee a une insuffisance aortique importante. Elle a beneficie d'un remplacement valvulaire mitral par bioprothese [illegible] et remplacement valvulaire aortique par prothese mecanique Hall-Kaster.

Les suites operatoires et post-operatoires n'ont ete marquees d'aucun probleme majeur. Elle a sejourne environ 14 jours a l'hopital Sir [illegible] et on l'a laissee sortir du service le 1er juillet 1986 dernier.

L'examen de sortie ce jour montrait un etat general satisfaisant, une tension arterielle a 115/70, des pouls reguliers a 100/minute, une temperature a 37°C.

L'auscultation cardiaque faisait entendre des bruits du coeur normaux. La valve etait egalement audible. Il existait un petit souffle systolique d'intensite 1/6 au foyer mitral, un autre souffle systolique ejectionnel cette fois d'intensite 1/6 au foyer aortique. Le reste de l'examen clinique etait dans les limites de la normale.

La radiothoracique montrait une cardiomegalie avec ventricule gauche dilate, oreillette gauche egalement dilatee, une accentuation du tronc de l'artere pulmonaire. Le parenchyme pulmonaire etait clair.

Sur le plan electrocardiographique, on notait un rythme sinusal, un espace PR entre 0,18 et 0,20 seconde, un axe de QRS a + 25°, une hypertrophie ventriculaire gauche avec surcharge systolique et diastolique du ventricule gauche, une hypertrophie auriculaire gauche moderee; il n'existait pas de bloc de branche. Sur le plan therapeutique, elle etait anti-coagulee et prenait un traitement digitalo-diuretique associe a du fer et de l'acide folique pour une petite anemie.

J'ai revu cette malade en consultation post-operatoire pour la premiere fois le 8 juillet 1986 dernier. Elle etait bien sur le plan clinique. Les valves semblaient fonctionner tres correctement. Elle etait bien anti-coagulee mais par la suite, c'est-a-dire dans la semaine qui suivait, cette malade avait arrete sa Warfarine pour des raisons inexplicables ce qui a bouleverse son anti-coagulation. Ceci m'a amene a reprendre l'anti-coagulation et donc a la revoir a des consultations successives uniquement pour le taux de prothrombine.

.../2

Le [illegible] Aout 19[illegible].

[illegible]

Le Spécialiste Responsable,
Medical Unit.

Mon cher confrère,

Votre malade [redacted] qui était porteuse d'une communication inter auriculaire, comme vous le savez, a été opérée par le Professeur [illegible] le 23 Juin 19[illegible] dernier.

Etant donné son age, cette malade a été cathétérisée en pré-opératoire pour l'étude des pressions pulmonaires essentiellement. Ce cathétérisme a confirmé la presence d'une grosse C.I.A., une veine cave supérieure en position normale, et une suspicion de retour veineux pulmonaire anormal partiel avec drainage du sang veineux provenant du poumon droit vers la zone du défect septal.

Cette malade a donc été opérée et a bénéficié d'une fermeture complète de la C.I.A. A noter que lors de la phase d'observation per-opératoire, on a remarqué effectivement que le drainage veineux pulmonaire supérieur droit se faisait à la limite du défect septal mais se faisait quand même vers l'oreillette gauche ce qui a donc facilité la fermeture dans le sens qu'il n'y a pas eu de nécessité pour une re-canalisation.

Les suites opératoires immédiates n'ont posé aucun problème majeur. Cependant le séjour en salle a été marqué par quelques incidents:

1° On a remarqué un petit accès fébrile au dixième/onzième jour qui a été relativement sans suite avec un traitement simple.

2° Un épanchement pleural bilatéral plus important à gauche qu'à droite. Cet épanchement n'a pas été drainé étant donné le volume liquidien acceptable.

3° Une péricardite avec épanchement dont le volume était quand même modéré.

Cette malade était mise sous anti-inflammatoires à doses importantes et on l'a laissé partir pour chez elle le 6 juillet dernier après une hospitalisation d'environ 14 jours.

L'examen de sortie montrait un état général satisfaisant, une tension artérielle à 110/70, des pouls réguliers à 96/minute, une température à 36,6°C.

L'auscultation cardiaque révélait une tachycardie régulière, un petit frottement péricardique et pas de souffle. Sur le plan pulmonaire, le murmure vésiculaire était légèrement diminué à droite. Le reste de l'examen n'était pas significatif.

..../2

Prof. Hassan Raffa

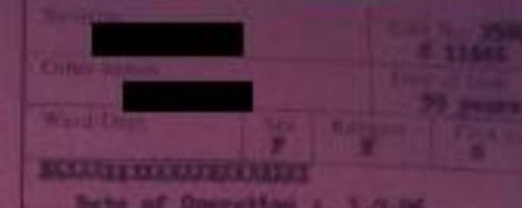
Aug-Sept 1986

MINISTRY OF HEALTH

OPERATION SHEET

MINISTRY OF HEALTH

OPERATION SHEET



Date of Operation : 1.9.96

Surgeon : Professor Hassan Raffa
Assistant : Dr. A. Sorafan
Anaesthetist : Dr. Hathoora

Diagnosis : ASD
Operative Diagnosis : ASD secundum type of large size
Procedure : Pericardial patch closure of secundum ASD
Findings : Severe R.A.E., NSR
Extracardiac : Dilated MPA with Thrill
Intracardiac : Large 3 X 2 cm^2 Secundum ASD in fossa ovalis extending to IVC Origin. No anomalous pulmonary veins.

Technic
Median Sternotomy. Total Heparinisation with 180 mg Heparin. Cannulation
Aorta size 21. SVC 26. IVC 32.
Total Bypass. Cardioplegia.
Heart opened – ASD closed with autologous pericardium with running continuous 3 X 0 Prolene suturing.

Heart drained. Aortic clamp removed. Rewarming. Heart resumed. Beat spontaneously or by D/C shock 20 joules.
Cardiac output – Satisfactory.
Bypass terminated.
Decannulation, Protamine sulphate 350 mg given I.V. Chest drained.
Anterior mediastinum with size 32 Drains
Right Pleura drained.
Left Pleura drained.

Professor Hassan Raffa
M.D., D.T.M. & H., L.R.C.P., M.R.C.S., D.S.C. (h.c.)
Head of Cardiac Surgery, Saudi Heart Centre, Jeddah

MINISTRY OF HEALTH

OPERATION SHEET

Surname		Unit No. [illegible]
Other names		Date of birth [illegible] years
Ward Dept.	Sex [illegible]	Religion [illegible]	Civil state [illegible]

Date of Operation: [illegible]

Surgeon : Professor [illegible]

Assistants: Dr. [illegible]
Dr. [illegible]

Pre-operative Diagnosis: VSD II

Post-operative Diagnosis: L. loop TGA
ASD secundum type
LAD mal origin from R.C.A
Subpulmonic membrane inducing trivial PS

Surgery: ASD Patch

Intracardiac Pathology: MPA at right side
Aorta at left side
But both RV and LV are concordant to great arteries
The RV is smaller than LV
MPA dilated with thrill over it
Mitral and Tricuspid valves are transposed
LAD arising from R.C.A.
Fibrous membrane under pulmonary valve which is stuck
with the anterior leaflet of the mitral valve
No VSD.

Technic: M.L. median sternotomy
Total Heparinization
Aortic and venous cannulation. Total by-pass
Aortic clampage. Cardioplegia, venting left ventricle
Right atriotomy ASD II about 2 x 1 cm in diameter
Patched with Pericardium Patch and sealed.
Coronary sinus was not identifiable in the RA cavity
at all.

/P.T.O. ...

MINISTRY OF HEALTH

OPERATION SHEET

Surname [redacted]

Other names [redacted]

[illegible] 26 years

Ward/Dept. | Sex F | [illegible] | [illegible]

Date of Operation : 19.9.86

Surgeon : Professor Hassan Raffa

Assistant : Dr. Y. [illegible]
Dr. [illegible]

Anaesthetist : Dr. [illegible]

Diagnosis : MR, MS

Operative Diagnosis : Severe MR
Mild MS
Pericardial adhesions

Procedure : [illegible]

Findings : Severe Pericardial adhesions
LAE, Severe [illegible], MPA Dilated.
Systolic and diastolic thrill on LA

Intracardiac : Severe MR. Ant. leaflet is supple, chordae elongated.
Post leaflet fibrotic and retracted. Chordae shortened.
Subvalvular fusion.

Technic
Median Sternotomy. Total Heparinization with 180 mg Heparin. Cannulation
Aorta size 24. SVC 30. IVC 32.
Total Bypass. Cardioplegia.
Heart opened - Bilateral Bicommissural Annuloplasty with 2 X 0 Pledgeted
Ticron (2 X) and pledgeted 3 X 0 Prolene after
mobilisation of fused subvalvular apparatus.

Heart drained. Aortic clamp removed. Rewarming. Heart resumed. Beat
spontaneously or by D/C shock 20 joules (X2)
Cardiac output - Excellent
Bypass terminated.
Cardiotonics - Mild 5 Drops Dobutrex
Decannulation, Protamine sulphate 360 mg given I.V., Chest drained.
Anterior mediastinum with size 1 Drains
Right Pleura drained
Left Pleura drained.

Professor Hassan Raffa
M.D., D.T.M. & H., L.R.C.P., M.R.C.S., D.S.C. (h.c.)
Head of Cardiac Surgery, [illegible]

MINISTRY OF HEALTH

OPERATION SHEET

Surname [illegible]

Other names

Date of Surgery: 5.9.86

Referring Doctor & Address

Surgeon : Dr. Hassan Raffa

Assistants : Dr. A. Sarafan
Dr. Y. Mohsedhuz
Dr. R. Upadhyaya
Dr. [illegible]

Anaesthetist: Dr. R. Coquillat

Diagnosis: MS

Operative Diagnosis: Tight MS + PHT

Procedure: Open mitral valvotomy
Bilateral commissurotomy
(Ticron reinforced with pledgets)
Competent valve. Good orifice

Findings: Tight MS. Orifice 7 mm. Pliable valve.

Extracardiac: Enlarged heart. PHT. Diastolic thrill on Apex. A.F. during manipulation.

Intracardiac: Tight MS orifice 7 mm. Pliable valve.

Technic:

Median Sternotomy. Total Heparinization with 12,600 ou Heparin. Cannulation
Aorta size 21. SVC 30 IVC 32. Total Bypass. Cardioplegia. Heart opened
left atriotomy. Bilateral commissurotomy. Bilateral annuloplasty with
pledgeted ticron suture followed by prolene.
Heart drained. Aortic clamp removed. Dearring. Heart resumed. Beat
on ST D/C shock X 10 joules. Cardiac output low. Bypass terminated.
Cardiotonics Dopamine. Decannulation, Protamine Sulphate 252 mg given I.V.
Chest drained. Anterior mediastinum with size 2 Drains
Right pleura drained.

Professor Hassan Raffa

M.D., [illegible] L.R.C.P., M.R.C.S., D.S.C. (h.c)

Head of Cardiac Surgery, Saudi Heart Centre, Jeddah

MINISTRY OF HEALTH

OPERATION SHEET

Date of surgery: [illegible]

Surgeon : Professor [illegible] Raffa
Assistant : Dr. [illegible], Dr. [illegible]
Anaesthetist: Dr. [illegible]

Diagnosis: MS

Operative Diagnosis: Severe MS (Calcified)
Mild MR, Moderate [illegible]

Procedure: (Debridement of calcium) [illegible]

Findings : Systolic Thrill [illegible] Aorta. Diastolic thrill [illegible]
[illegible] Dilated

Intraoperative: Severe MS calcified on the anterolateral commissure fusion of subvalvular apparatus, mild MR due to calcified rigid valve moderate fusion of all 3 non fibrotic aortic leaflets

Technic

Median Sternotomy. Total Heparinization with [illegible] mg Heparin. Cannulation. Aorta size [illegible]. [illegible]. [illegible]. Total Bypass. Cardioplegia.
Heart opened [illegible] Decalcification of mitral valve, [illegible] at post and commissure with [illegible] tissue [illegible]. [illegible]
Heart drained. Aortic clamp removed. [illegible]. Heart resumed. Beat spontaneously or by D/C shock 20 joules. Cardiac output excellent.
Bypass terminated. Cardiotonics Dopamin 5 [illegible]
Decannulation, chest drained.
Right Pleura drained.
Left Pleura drained.

Professor [illegible] Raffa
[illegible]
Head of Cardiac Surgery, [illegible] Heart Centre, Jeddah

MINISTRY OF HEALTH

OPERATION SHEET

Surname [redacted] Unit No. [illegible]
Other names [redacted] Date of birth 27 years
Ward/Dept. Sex Religion Civil state

Date of Operation : 10.9.86

Surgeon : Professor [illegible]
Assistant : Dr. J. [illegible]
Anaesthetists : Dr. [illegible]
Dr. [illegible]

Diagnosis : MS + MR + AR

Operative Diagnosis : MS + MR + AR

Procedure : OMV + MAP (Bilateral annuloplasty)
AVR – No. 21 Duromedic mechanical valve.
Mitral valve 100 % competent.

Findings : Enlarged heart

Extracardiac : Systolic thrill over LA
Diastolic thrill over Apex
Systolic and Diastolic thrill over Ao.

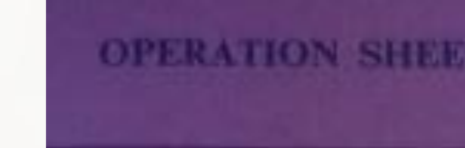
Intracardiac : Mitral valve incompetent. Fusion of commissures.
Thin pliable valve.
Subvalvular mechanism normal. Ao incompetence.

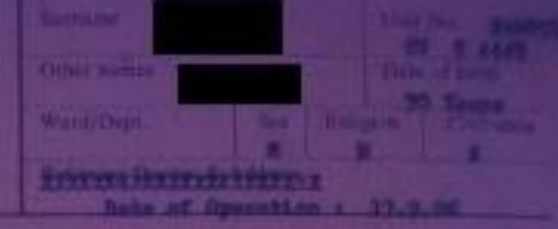
Technic
Median sternotomy. Total Heparinization with [illegible] mg Heparin. Cannulation
Aorta size 21. SVC 30. IVC 32.
Total Bypass. Cardioplegia.
Heart opened – Bilateral commissurotomy + Bilateral annuloplasty.
AVR – No. 21 Duromedic mechanical valve. Multiple pledgeted Ticron sutures.
Heart drained. Aortic clamp removed. Rewarming. Heart resumed. Beat by D/C shock 20 joules.
Cardiac output – Good
Bypass terminated.
Decannulation, Protamine sulphate [illegible] mg given I.V., Chest drained
Anterior mediastinum with size 32 drains.
Right Pleura drained

Professor [illegible]
M.D., D.T.M. & H., L.R.C.P., M.R.C.S., D.S.C. (h.c.)

Head of Cardiac Surgery, Saudi Heart Centre, Jeddah

MINISTRY OF HEALTH


OPERATION SHEET


Surname

Other names

Unit No. [illegible]

Date of birth: 30 Years

Ward/Dept.

Sex: M

Religion: M

Nationality: S

[illegible]

Date of Operation : 17.9.86

Surgeon : Professor Hassan Raffa

Assistant : Dr. A. Sorefan

Anaesthetist : Dr. Mariechallee

Diagnosis : M.S.

Operative Diagnosis : Tight M.S. + Thrombus in L.A.
\+ Persistent L.S.V.
Tricuspid normal.

Extracardiac : Enlarged heart
PHT. Distended M.P.A.

Intracardiac : Diastolic thrill over Apex
Tight M.S., Fibrotic leaflets. Pliable
Thrombus in L.A.

Technique
Median Sternotomy. Total Heparinization with 200 mg Heparin. Cannulation
Aorta size 24. SVC 32. IVC 34.
Total Bypass. Cardioplegia.
Heart opened - Bilateral commissurotomy + separation of fused chordae
and papillary muscles. Bilateral annuloplasty.
Removal of thrombus from L.A. Closure of L.A.
Appendage from inside.

Heart drained. Aortic clamp removed. Deairing. Heart resumed. Beat
spontaneously or by D/C shock 32 joules.
Cardiac output - Low
Bypass terminated.
Cardiotonics - Dopamine and Dobutrex
Decannulation, Protamine sulphate 350 mg given I.V. Chest drained
Anterior mediastinum with size 32 Drains
Right Pleura drained 36.
Left Pleura drained 36.

Professor Hassan Raffa
M.D., D.T.M. & H., L.R.C.P., M.R.C.S., D.S.C. (h.c.)
Head of Cardiac Surgery, Saudi Heart Centre, Jeddah

MINISTRY OF HEALTH

OPERATION SHEET

Surname: [illegible]
Other names: [illegible]
[illegible]: 13 years
Ward/Dept: | Sex: F | Religion: M | Civil state: S

Date of operation : [illegible]

Surgeon : Dr. A. [illegible]

Assistant : Dr. T. [illegible]

Diagnosis : P.D.A.

Operative Diagnosis : P.D.A.

Procedure : Left thoracotomy
Chest entered through 4 I.C.S.
Med. pleura incised
PDA dissected and encircled and ligated with 2 X 0 Ticron
and 3 X 0 Prolene transfixion [illegible].
Thrill disappeared totally.
Pleura closed with 3 X 0 continuous prolene suture and
chest drained and closed in layers.

Professor [illegible]
M.D., D.T.M. & H., L.R.C.P., M.R.C.S., D.S.C. (h.c.)
Head of Cardiac Surgery, Saudi Heart Centre, Jeddah

In-Patient Case Summary

Remplacement valvulaire mitral

Bioprothèse

Sans problème majeur

Passage en F.A. réduite par LAMIDARONE I.V.

accident hémorragique mineur – quelques extractions dentaires – Traitement local efficace.

Satisfaisant T.A. 110/70

B.D.C. réguliers

Souffle systolique

R.A.S.

NON

Amélioration de la silhouette cardiaque et de la vasculature pulmonaire

Sinusal

Warfarine

Digoxine 0.25 mg

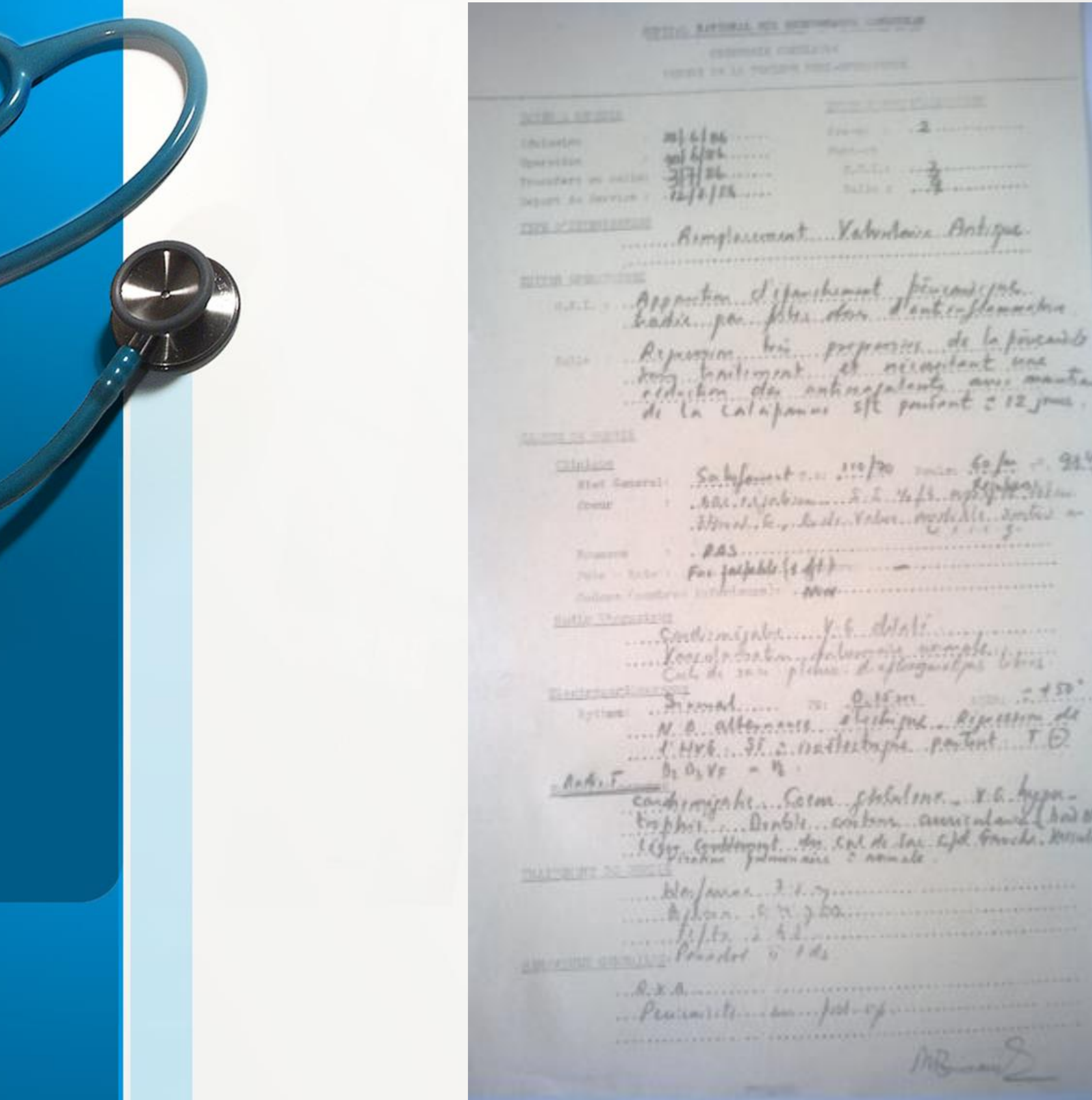
Lasix

Fermeture de CIA

Pas de problème majeur

Pas de problème majeur

CIA fermée. Bonne évolution



Remplacement Valvulaire Aortique

Satisfaisant 110/70 60/m

RAS

Patient Discharge Letter

On [illegible] she was complaining of nausea. She was not jaundiced but the lower rim of the liver was still palpable; this was however same as on day of discharge. Her digoxin was then stopped and cordarone was started. She did rather well for a few days then she presented rapid A.F which was very badly tolerated and leading the patient in heart failure with important bilateral Pedal Oedema, ascites, congested liver and raised JVP.

An Echocardiogram was practised and this ruled out the presence of pericardial effusion nor any abdominal vein thrombosis. She was readmitted in the ICU of [illegible] and was treated actively with IVI digitalis and diuretics. Cordarone was stopped and oral Nitrates were introduced in her treatment. Warfarin was also stopped and replaced by calciparine for a few days. She responded very quickly and positively to the treatment. After four days she was again discharged in a stabilised state after that parenteral drugs were changed to oral. When she went home on [illegible], She was under the following drugs:-

Digoxin: 0.25 mg OD

Lasix: 40 mg B.D

Warfarin: 6 mg OD
Nisitrat: 10 mg TDS
MOU tabs: 1 b.d
KCL: 15 mls tds

After that she continued to improve her cardiovascular, pulmonary and general conditions. Her anticoagulation had to be readjusted progressively according to Prothrombin time. I saw her for the last time on [illegible]. She was in a very satisfactory general condition. BP was 110/60, Pulse 84/m irregular. Cardiac auscultation showed mild to moderate mitral regurgitation and she was in A.F. The lower rim of the liver was still palp, there was no ascites but mild pedal oedema on both sides. She presented varicose veins as was previously known. Her Prothrombin time on that day was P 26 secs C - 18 secs.

As I was fairly satisfied with her cardiovascular condition, I asked her to attend your clinic in a period of 3 weeks after the last review at [illegible] after having checked her prothrombin time. I am sure you would have received by that time her file containing operative and post-operative notes.

Please note that I have not increased her dosage of warfarin which ought to have been done according to her last prothrombin time mentioned as this was just acceptable I preferred not to alter this treatment until she comes to your OPD for further follow up. Her treatment on discharged from [illegible] was as follows:

Digoxin: 0.25 mg OD,
Lasix: 40 mg B.D
KCL: 15 mls B.D
Nisitrat: 10 mg tds
Warfarin: 1.25 mg on alt. days
Penadur: 1.2 M.U IMI every three weeks with care as patient is under anticoagulants.

Despite the postoperative problems that we have encountered in this case, I still consider the results of Open Heart Surgery to have been very good. It is most unfortunate that this patient went back into AF fairly rapidly [illegible] in the post operative course after having maintained sinus rhythm for about one month.

I thank you very much for continuing the follow up of this patient and for your kind cooperation. I remain at your disposal for any further information you might need concerning this patient.

With best regards,

Yours Sincerely,

[illegible]

(Dr [illegible])
Cardiologist, [illegible]

Coronary Angiogram

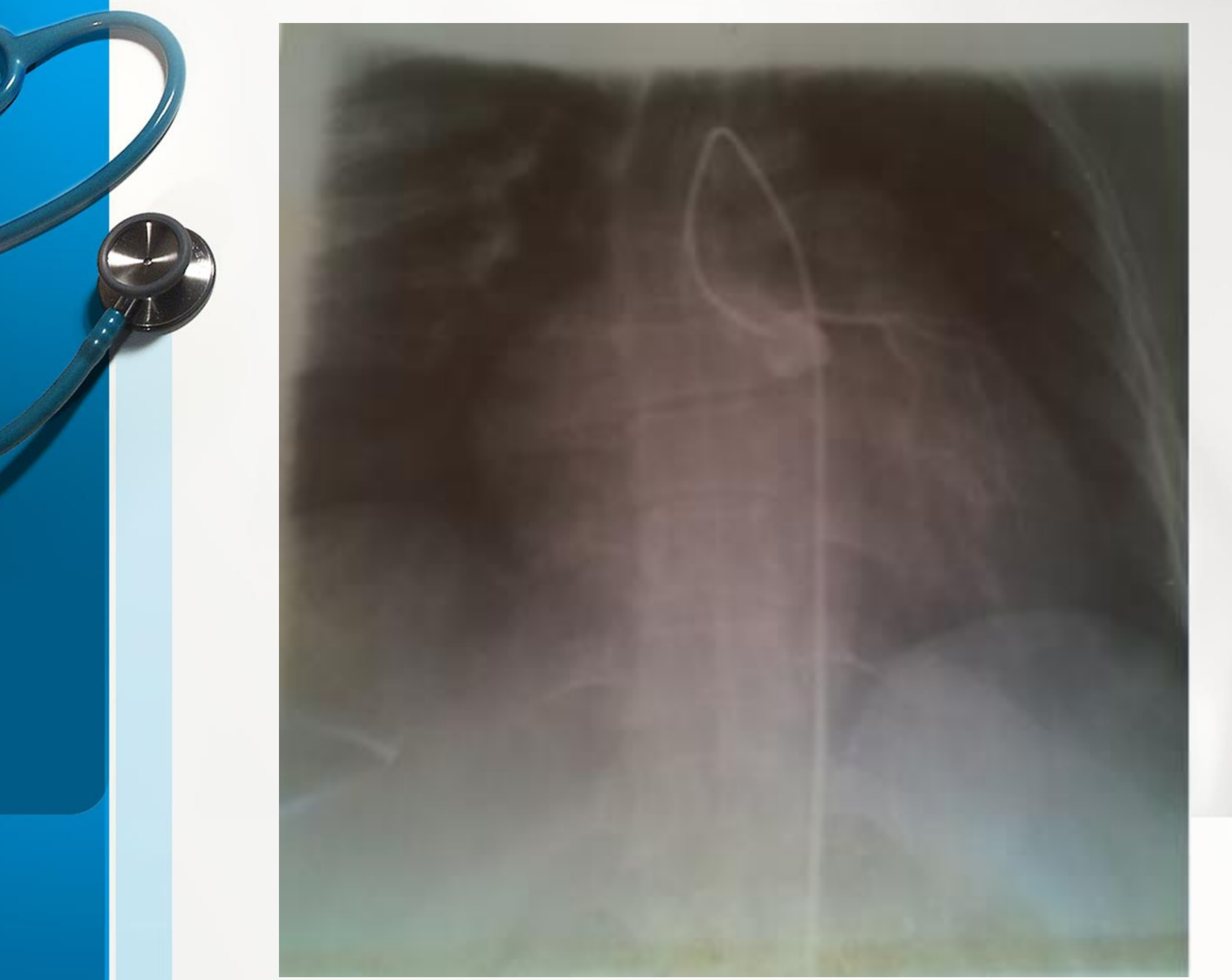
1986

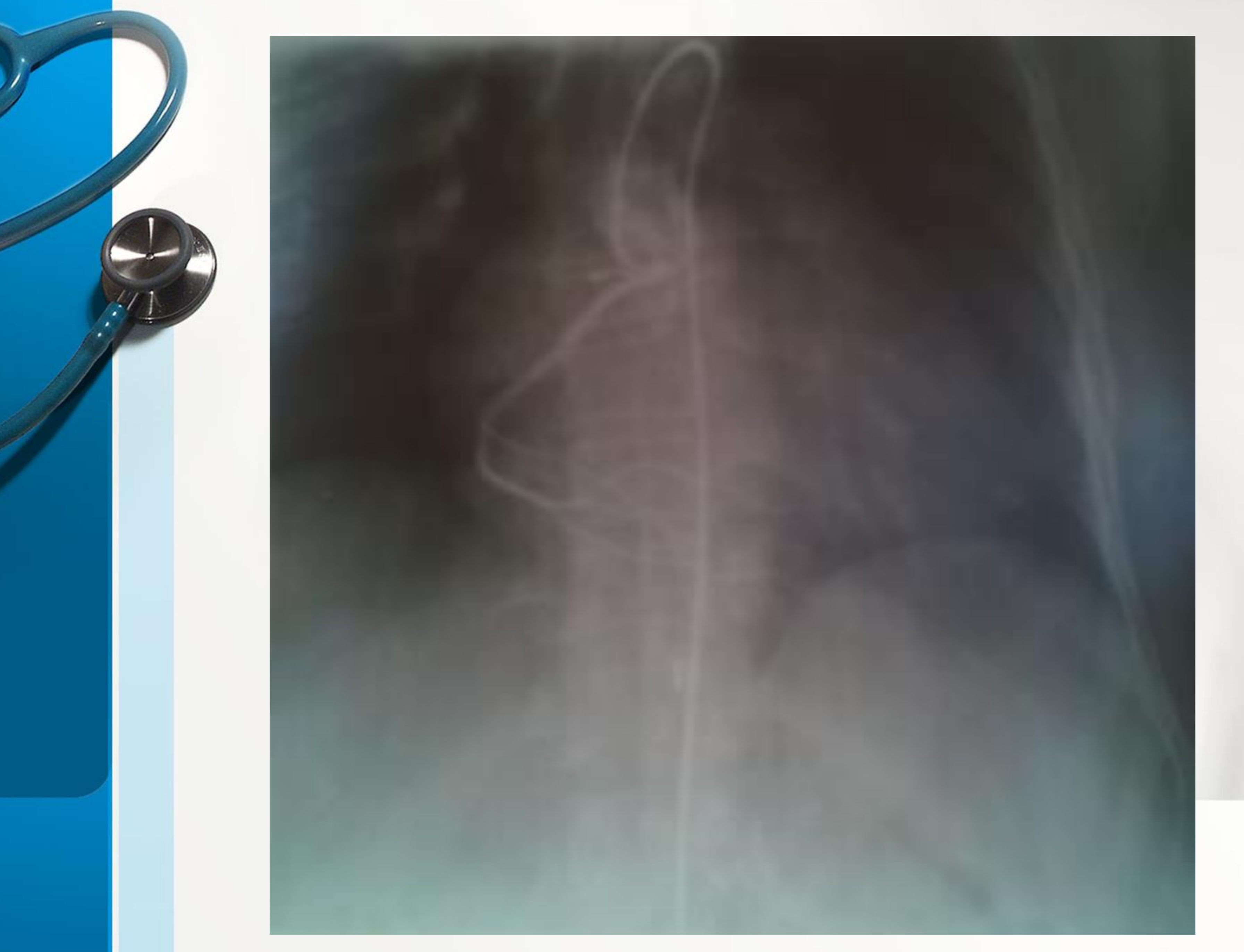
1st Angiography in Mauritius… in 1986!!!

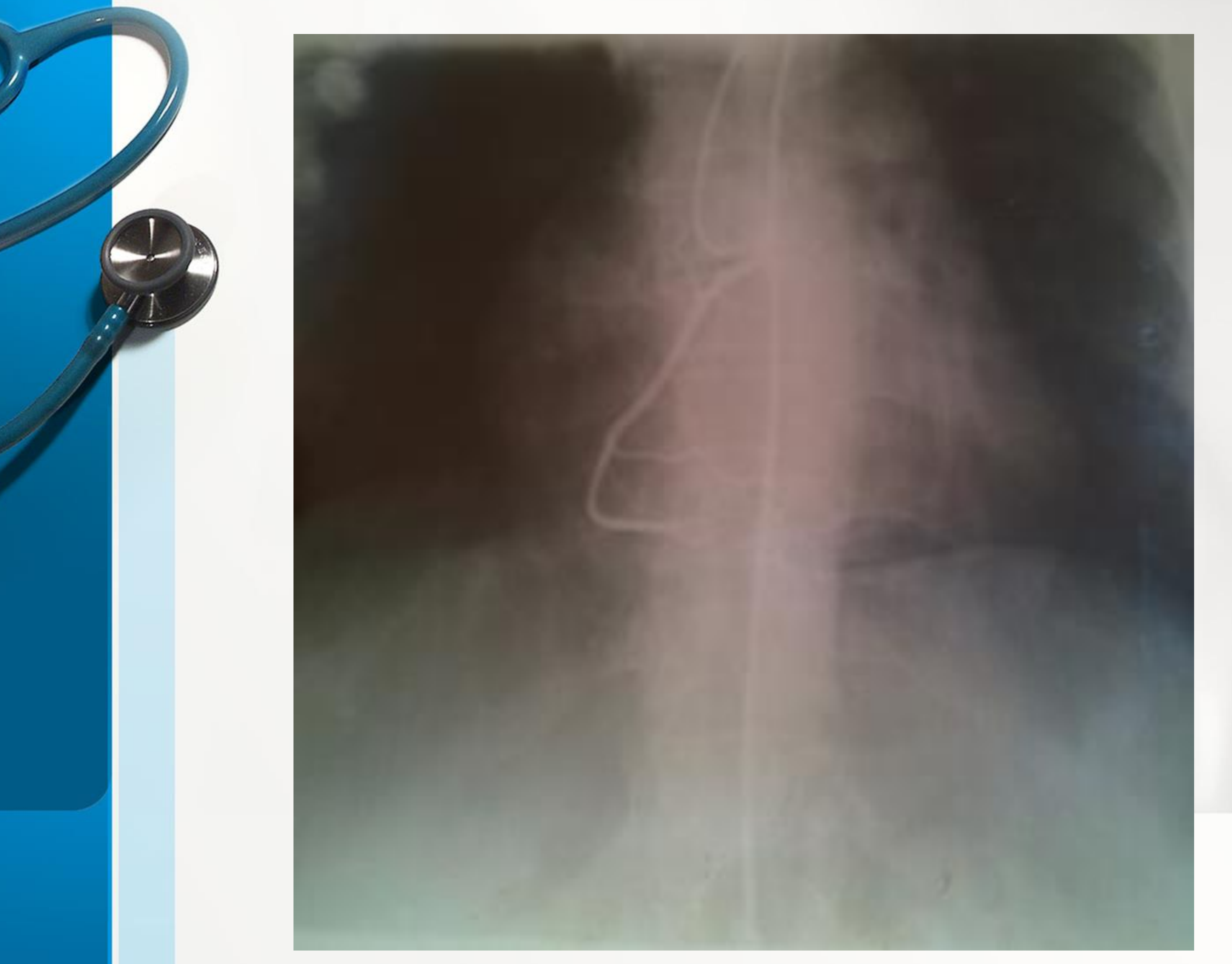
Patient 55 yr old (female) with Large ASD secundum, PHT, Heart Failure, Pulmonary vascular resistance borderline

Denied surgery for unknown coronary artery status

1st coronarography done in Victoria Hospital with 2 nurses and 1 radiotechnician in the usual general X-ray department.







The coming up of a full-fledged cardiac centre at SSRNH

16th February, 1987

To,
The Permanent Secretary,
Ministry of Health,
Thro' The Regional Health Director (North)
SSRNHospital.

Sir,

I wish to submit for your attention and due action the following report concerning

(1) the facilities that can be provided at this present time in the field of Cardiology at SSRNHospital and

(2) proposals for the further improvement of upgrading these facilities.

As you know I have been posted at SSRNHospital since the Month of June 1986 last. From then till December the same year, two sessions of Cardiac Surgery have been performed and as you also know, the pre and postoperative care of operated cardiac patients is fairly complicated and remains a very important issue. This will explain to you that a Cardiac Surgery Session which lasts about two weeks indeed keeps me busy for about two months until the time that I am satisfied with the clinical Cardiovascular state of each patient before I send them back to their respective treating specialists for further follow up.

Despite the relatively short time that I had to spare for other Cardiac Cases and specialised Cardiology at large since June 1986, I have tried my utmost best to structure Cardiology in its various components as it should exist in any specialised centre creating structures, that were not existing at all and any further improving those that were already existing. It is the result of all this that is summarised in the chapter which I call the actual facilities in Cardiology at SSRNHospital in what we could call actually "OUR CARDIAC SECTION" of this hospital. Furthermore, this "Cardiac Section" has been functioning only with me as the ONLY DOCTOR, two female nursing Officers and one secretary. The amount and high quality of clinical and scientific work done by this very small team speaks well for itself.

As an expert in Cardiology with five years experience in Mauritian Cardiology and knowing all the various other Cardiac Sectors of the country, I can assure you that the best Cardiac set up in Mauritius for specialised [investigate]
and outpatient clinic is actually found in the SSRNHospital. However, to complete the project of a good Cardiac Unit we know have to: -

(1) Improve the standard of care in a specialised coronary unit which I intend to start using the actual facilities of the Intensive Care Unit of SSRNHospital.

(2) To organise a peripheral set up whereby all our Secondary hospitals, Health Centres, Dispensaries and Community Health Posts will get involved actively to allow this centralised Unit at SSRNHospital to function more efficiently and at the same time give a high standard of Cardiac Care to patients.

To be able to fulfill plans numbered 1 and 2 mentioned above, few requirements will be necessary and I am sure these are well within our reach.

...2/..

However I feel that we can only do further improvement if a separate and independent Cardiac Unit is set up immediately.

The idea had already been approved at an official meeting held at the Ministry of Health in the office of the Chief Medical Officer around mid-August 1986. The Chief Medical Officer had asked me to choose between starting the Unit immediately or just after the 7th Phase of Cardiac Surgery which was to start in one weeks' time. For commodity reasons, I chose the second formula and an official note was supposed to be circularised to all hospitals in that aspect. However this has not been implemented until now.

So far as I am concerned however, I have done the work as planned and have now already structured that Cardiac Unit at SSRNH which is already functioning marvellously well and is now only waiting for it to be officially named and launched.

I wish that your immediate attention be given to this matter so that I may continue in the path which I have traced for Cardiology at SSRNHospital, i.e. start working on my second phase as expressed to you in paragraph 4 of this letter. A third phase will automatically come when the cardiac unit will be integrated in our Heart Centre at SSRNHospital.

In the expectation of a positive action, I thank you in anticipation.

Yours faithfully,

(Dr V.K. Bunwaree)
Cardiologist, SSRNH

SSRNH Cardiac Unit

Out Patient Department

Diagnostic Centre

Coronary Care

Coronary ICU

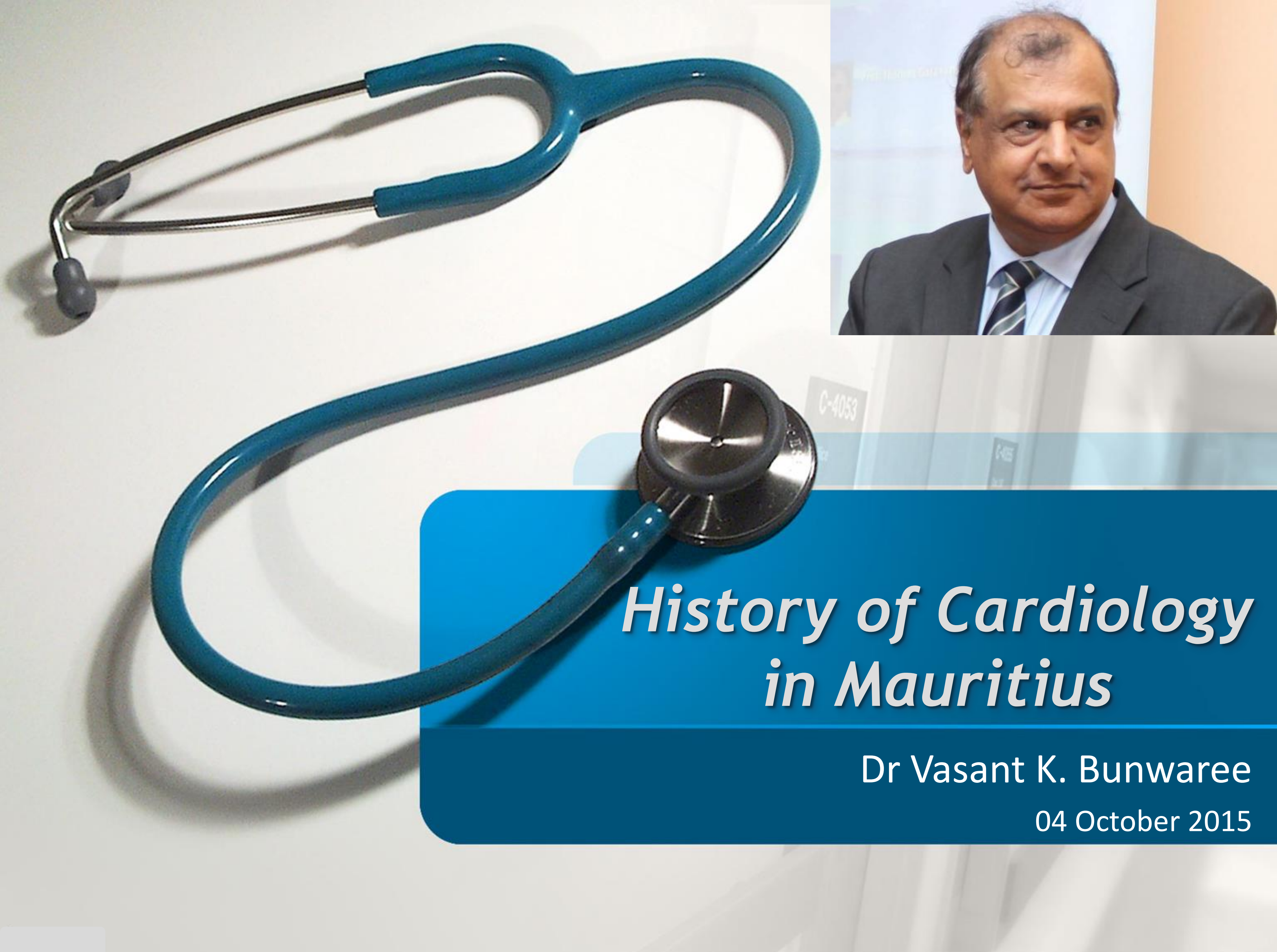
Pacemaker implantation

Cardiac Surgery Unit

Cardiac Centre

EMERGENCY ROOM
EMERGENCY
ENTRANCE
CARDIAC UNIT
ECHO CARDIOGRAPHY
STRESS ROOM
WARDS
• INTENSIVE CORONARY CARE UNIT
• INTENSIVE CARE UNIT (ICU 1)
• INTENSIVE CARE UNIT (ICU 2)
• DAY HOSPITAL (DH)
EMERGENCY
CARDIAC OUT-PATIENT DEPARTMENT (OPD)
CARDIAC OUTPATIENT DEPARTMENT

X - RAY ON
CARDIAC CATH LAB
RESTRICTED AREA
STERILE ZONE


History of Cardiology in Mauritius
Dr Vasant K. Bunwaree
04 October 2015

Thank you