NASCITA PRE TERMINE E RISCHIO CARDIOVASCOLARE

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CARDIOLOGIA ASLTO5

Società Italiana dell'Ipertensione Arteriosa
Lega Italiana contro l'Ipertensione Arteriosa

Anamnesi e presentazione clinica

Luigi 65 anni: inviato dal Curante per controllo dopo anni di «vacanza medica»

Familiarità per ipertensione e diabete mellito

Fuma circa 10-12 sigarette al giorno

Buone condizioni generali, presenza di moderata **eccedenza ponderale** (BMI=29 kg/m^2) con distribuzione androide della massa grassa (circonferenza vita: 106 cm).

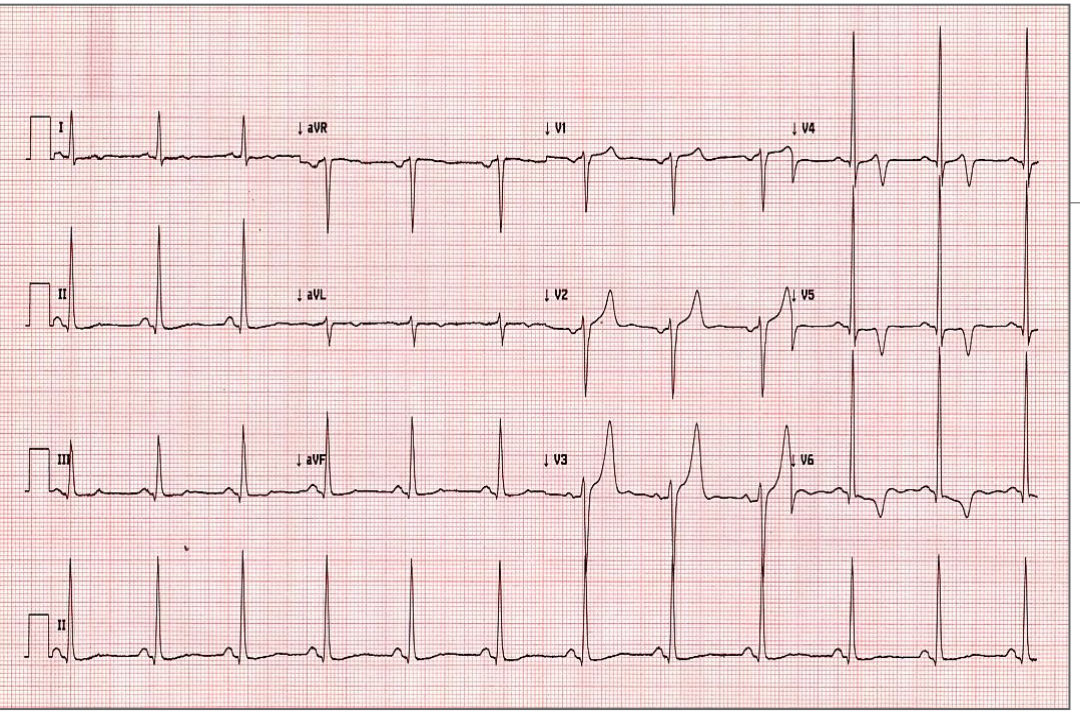
A livello cardiovascolare : **Soffio sistolico di 1/6** in corrispondenza del focolaio mitralico. La pressione arteriosa (media di 3 misurazioni) è pari a **160/90 mmHg**

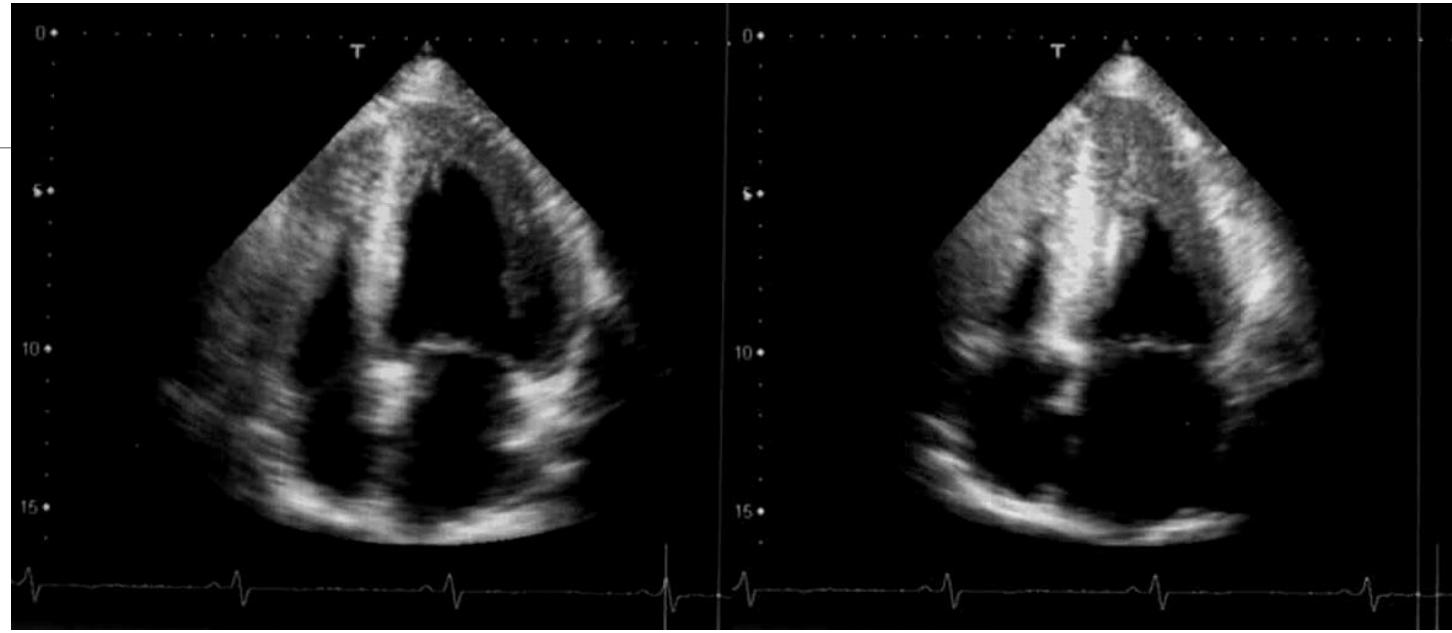
Riscontro di **soffio sistolico a livello della carotide di sinistra.**

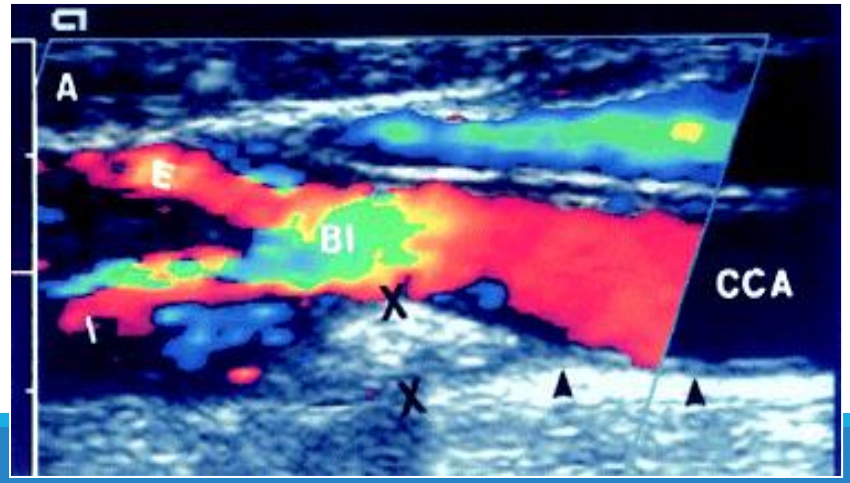
Ematochimici

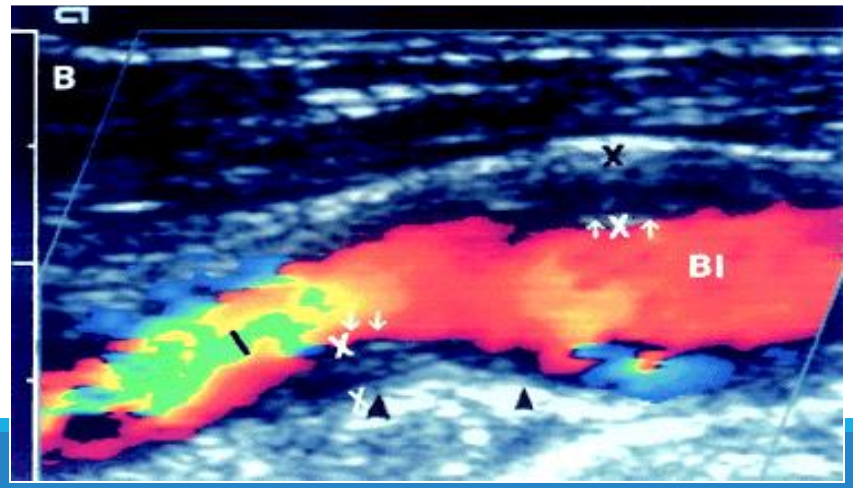
Creatininemia	*1.0 (mg/dl)*
Glicemia a digiuno	*116 (mg/dl)*
Colesterolemia totale	*288 (mg/dl)*
Colesterolemia HDL	*38 (mg/dl)*
Colesterolemia LDL (calcolata)	*214 (mg/dl)*
Trigliceridemia	*178 (mg/dl)*
Uricemia	*5.5 (mg/dl)*
Sodiemia	*141 (mg/dl)*
Potassiemia	*4.2 (mg/dl)*
Emoglobina glicosilata	*5.5 (%)*
Albuminuria su urine 24 ore	*128 (mg)*
Clearance della creatinina	*66 (ml/min, Cockcroft-Gault)*
VES	*8 mm*
Sodiuria e potassiuria	*nel range*

ECG Ecocardiogramma eco doppler TSAO









Anamnesi II

Di fronte a tali esiti il medico prende adeguati provvedimenti terapeutici (Antiipertensivi, aspirina, statine), ma.. conversando e confortando lo sconsolato Luigi emerge un fatto anamnestico prima rimasto nell' ombra.

Il sig Luigi era nato prematuro, non sa specificare bene quanto, ma ricorda che sua madre gli diceva sempre che era stato in incubatrice e reparto prematuri per molto tempo ed «era un miracolo se era uscito vivo»

Nascita pre termine e/o basso peso alla nascita

Pretermine : nato prima della 37° settimana (limite 23-24° settimana)

L'incidenza del parto pretermine in Italia è circa il 7% (1% circa di parti sotto le 30-32 settimane)

Basso peso alla nascita: può essere il risultato di un parto pretermine o di un ritardo di crescita intrauterino (IUGR = *IntraUterine Growth Retardation*)

Neonati *Low Birth Weight* peso alla nascita è compreso tra 1501 e 2500 g

Neonati *Very Low Birth Weight* peso alla nascita è < 1500 g

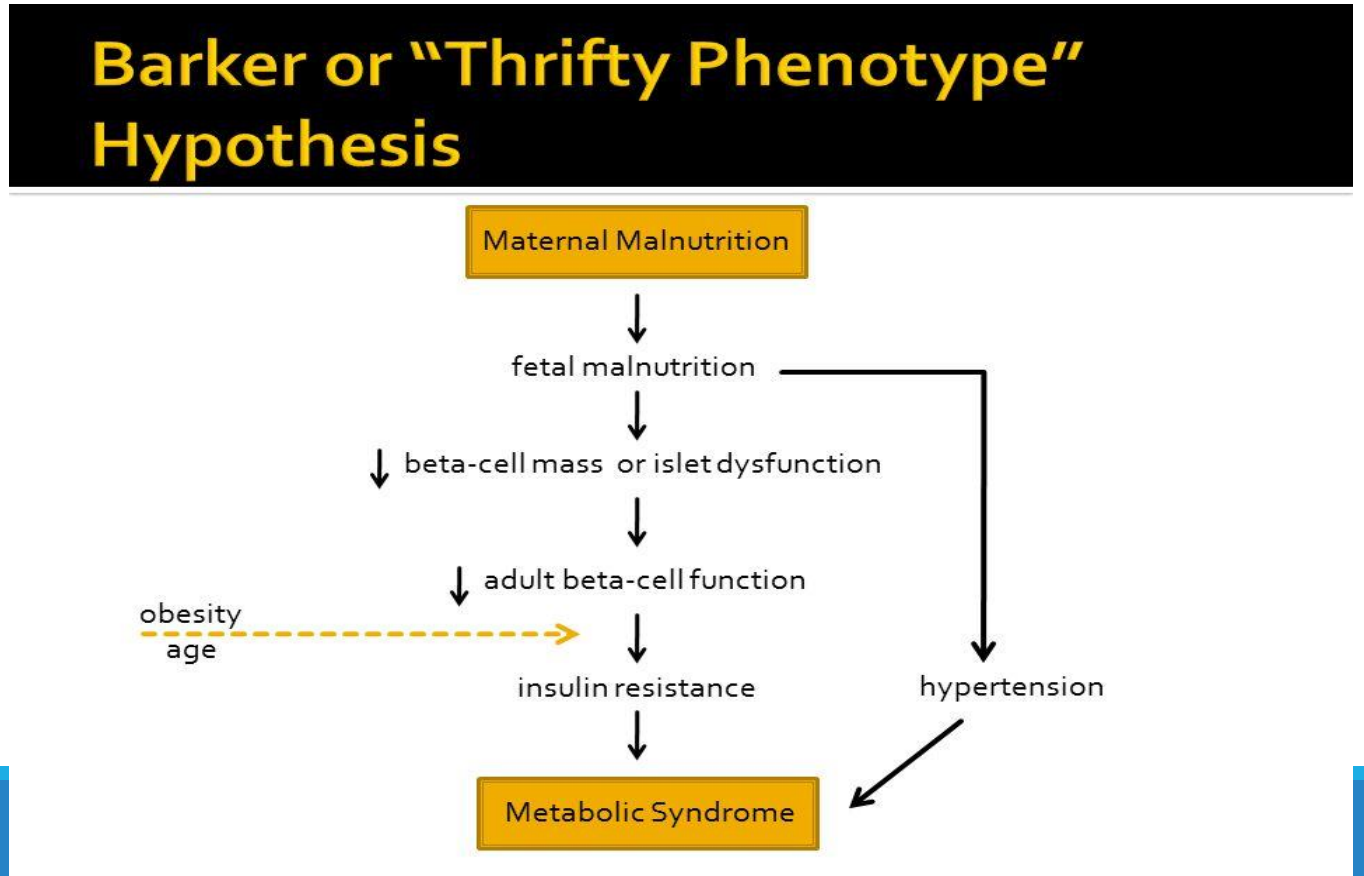
Neonati *Extremely Low Birth Weight* peso alla nascita è < 1000 g

OVERVIEW

Barker hypothesis

QUICK REFERENCE

Syn: thrifty phenotype hypothesis. A hypothesis proposed in 1990 by the British epidemiologist David Barker (b. 1939) that intrauterine growth retardation, low birth weight, and premature birth have a causal relationship to the origins of hypertension, coronary heart disease, and non-insulin-dependent diabetes, in middle age. Barker's hypothesis derived from a historical cohort study that revealed a significant association between the occurrence of hypertension and coronary heart disease in middle age and premature birth or low birth weight. The hypothesis is not supported by evidence from low-income countries, where intrauterine growth retardation and low birth weight are common but hypertension and coronary heart disease are less prevalent than in high-income countries. The evidence is presented in Barker's book Fetal and Infant Origins of Adult Disease (1992).



THE LANCET

< Previous Article Volume 356, No. 9233, p938–939, 9 September 2000

Correspondence

Adult cardiovascular risk factors in premature babies

Enid Hennessy, Eva Alberman

R John Irving and colleagues[1] conclude that gestational age and not IUGR is associated with raised subsequent blood pressure, contrary to results from larger studies of mainly term babies, in whom the reverse is true. We have published two studies on the NCDS birth cohort (born in the UK March 3-8, 1958). One was to investigate birth factors on subsequent reported adult hypertension (parous women only)[2] and the other to investigate the intergenerational effects on preterm birth (all available cohort members with their firstborn).

Volume 36, Issue 4
August 2007

Cardiovascular risk factors at age 30 following pre-term birth FREE

Stuart R Dalziel, Varsha Parag, Anthony Rodgers, Jane E Harding

International Journal of Epidemiology, Volume 36, Issue 4, 1 August 2007, Pages 907–915,

Conclusions Adults who were born moderately pre-term have increased blood pressure and insulin resistance at 30 years of age. Pre-term birth rather than poor fetal growth is the major determinant of this association. As both the incidence of pre-term birth and survival amongst those born pre-term are increasing, this group may contribute an increasing proportion to overall cardiovascular disease burden.

American Diabetes Association. Diabetes Care

Preterm Birth—A Risk Factor for Type 2 Diabetes?

The Helsinki Birth Cohort Study

Eero Kajantie, MD, PHD[1,2], Clive Osmond, PHD[3,4], David J.P. Barker, FRS[3,4,5,6] **and** Johan G. Eriksson, MD, PHD[1,7,8,9,10]

RESULTS Of the subjects, 5.1% had received special reimbursement after age 40. In subjects born before 35 weeks of gestation, the odds ratio for diabetes was 1.68 (95% CI 1.06–2.65) compared with that in those born at term. After adjustment for birth weight relative to length of gestation, the odds ratio was 1.59 (1.00–2.52).

CONCLUSIONS Preterm birth before 35 weeks of gestation is associated with an increased risk of type 2 diabetes in adult life. The risk is independent of that associated with slow fetal growth.

Low birth weight is a risk factor for type 2 diabetes (1,2). It can be a consequence of slow fetal growth, short gestation, or both. Although the link between type 2 diabetes and slow fetal growth is well established, the link between it and preterm birth has been much less studied (1). Most, although not all (3), of the few existing studies support increasing rates of diabetes in people born preterm, but they have limitations: two focus on severe prematurity (4,5), one is limited to diagnoses in a hospital discharge register (6), and one is based on self-report (7). We assessed whether the rates of type 2 diabetes, according to special medication reimbursement, differ according to gestational age at birth.

Nascita pre termine e ipertensione arteriosa

Associazione con ipertensione sistolica giovanile e pattern non dipper

Patogenesi multifattoriale

Imperfezione processo di maturazione renale con *nefrogenesi incompleta*, ridotto numero unità filtranti, *precoce sclerosi glomerulare*

Aumento riassorbimento Na e attivazione SRAA

Attivazione surrenalica

Incremento drive simpatico

- Keijzer-Veen M, Kleinveld H, Lequin M, Dekker F, Nauta J, Rijke Y, Heijden B. Renal function and size at young adult age after intrauterine growth restriction and very premature birth. Am J Kidney Dis.
- Bayrakci US, Schaefer F, Duzova A, Yigit S, Bakkaloglu A. Abnormal circadian blood pressure regulation in children born preterm. J Pediatr. 2007;151:399–403. doi: 10.1016/j.jpeds.2007.04.003.

ESC
European Society of Cardiology
Europ
doi:10

ICAL REVIEW
anslational medicine

Mechanism
cardiovascu

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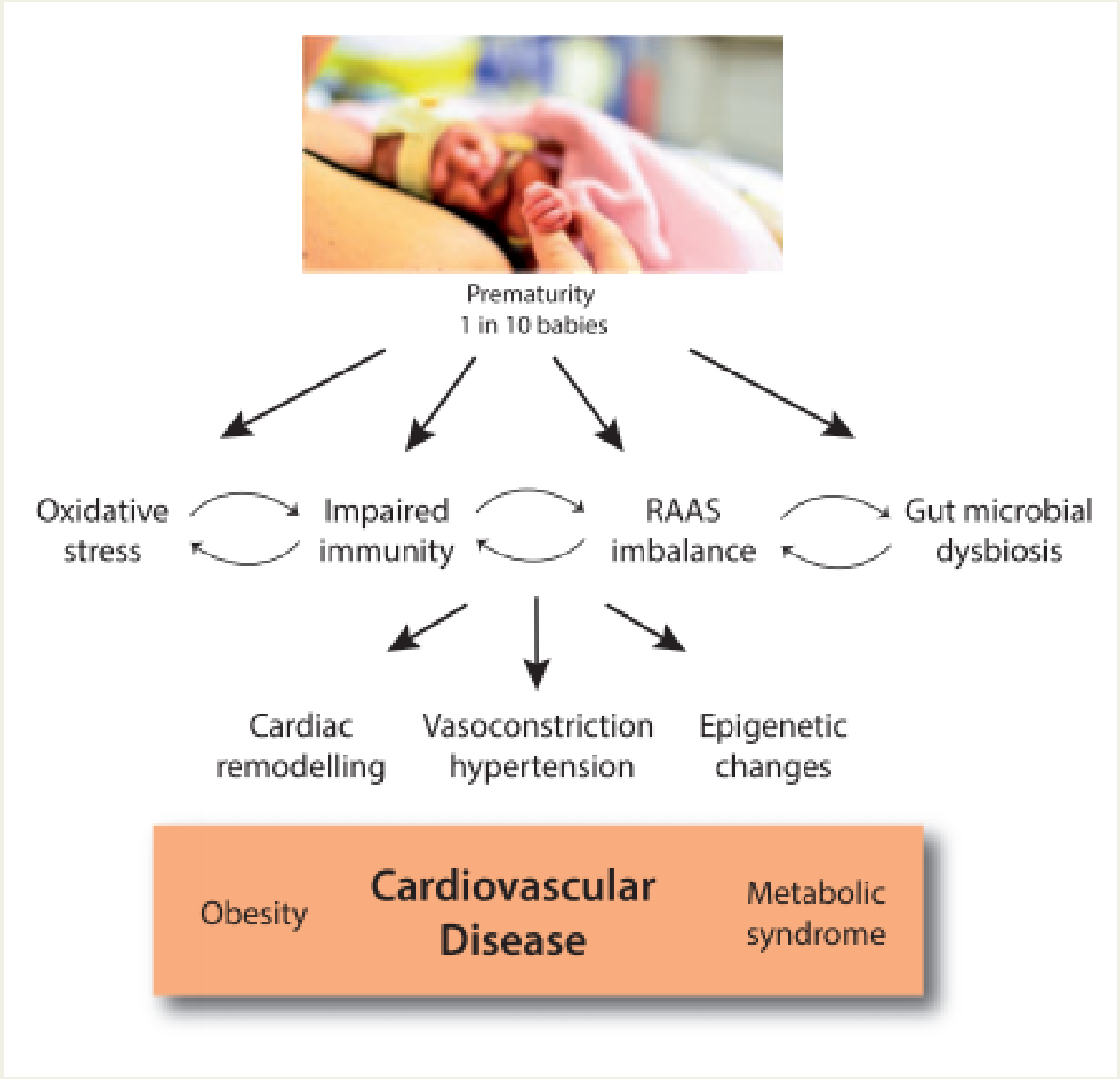
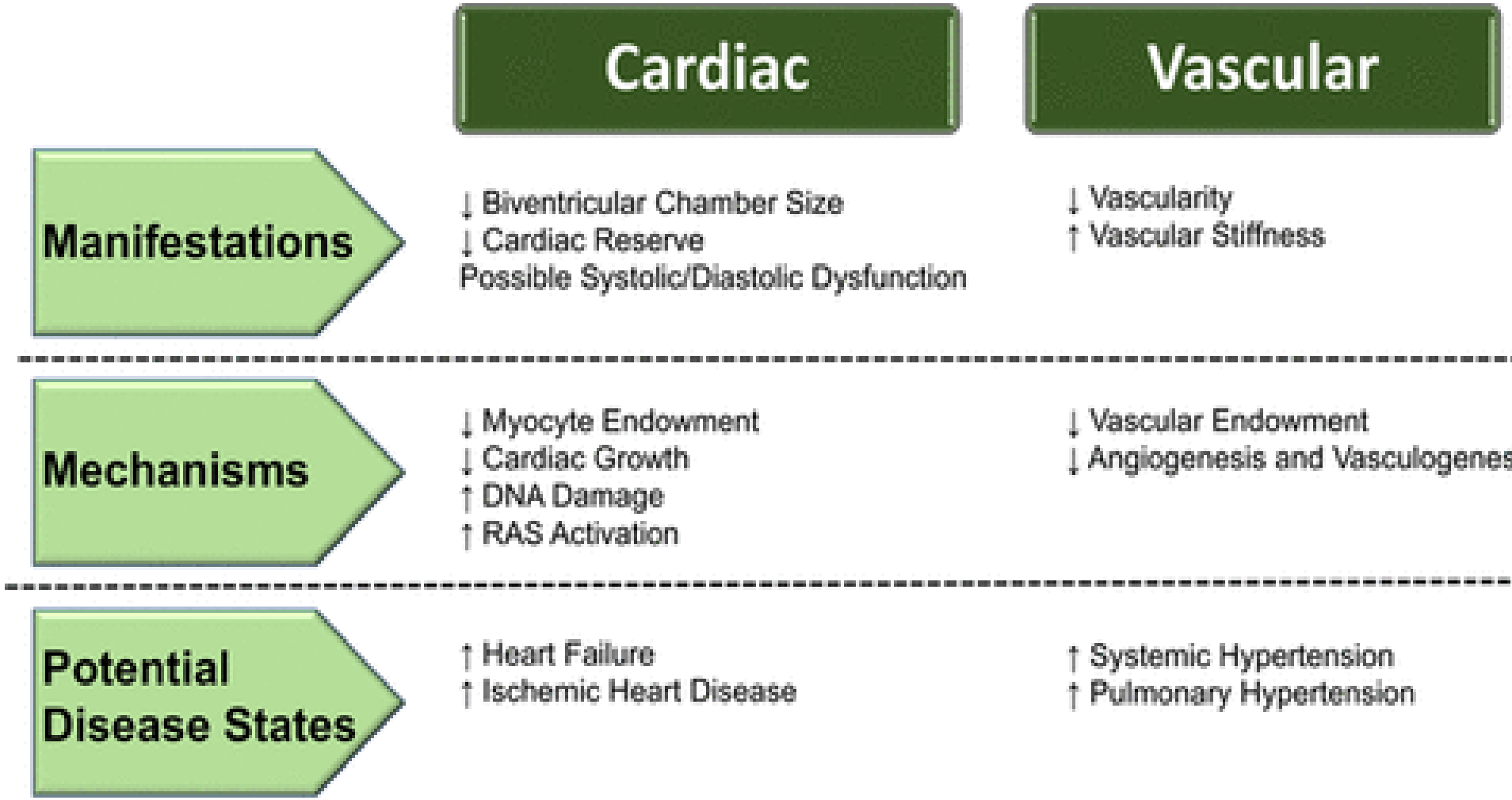
Mahesh Bavineni[1], T
W. Ussery[3],
Thomas F. Lüscher[5]

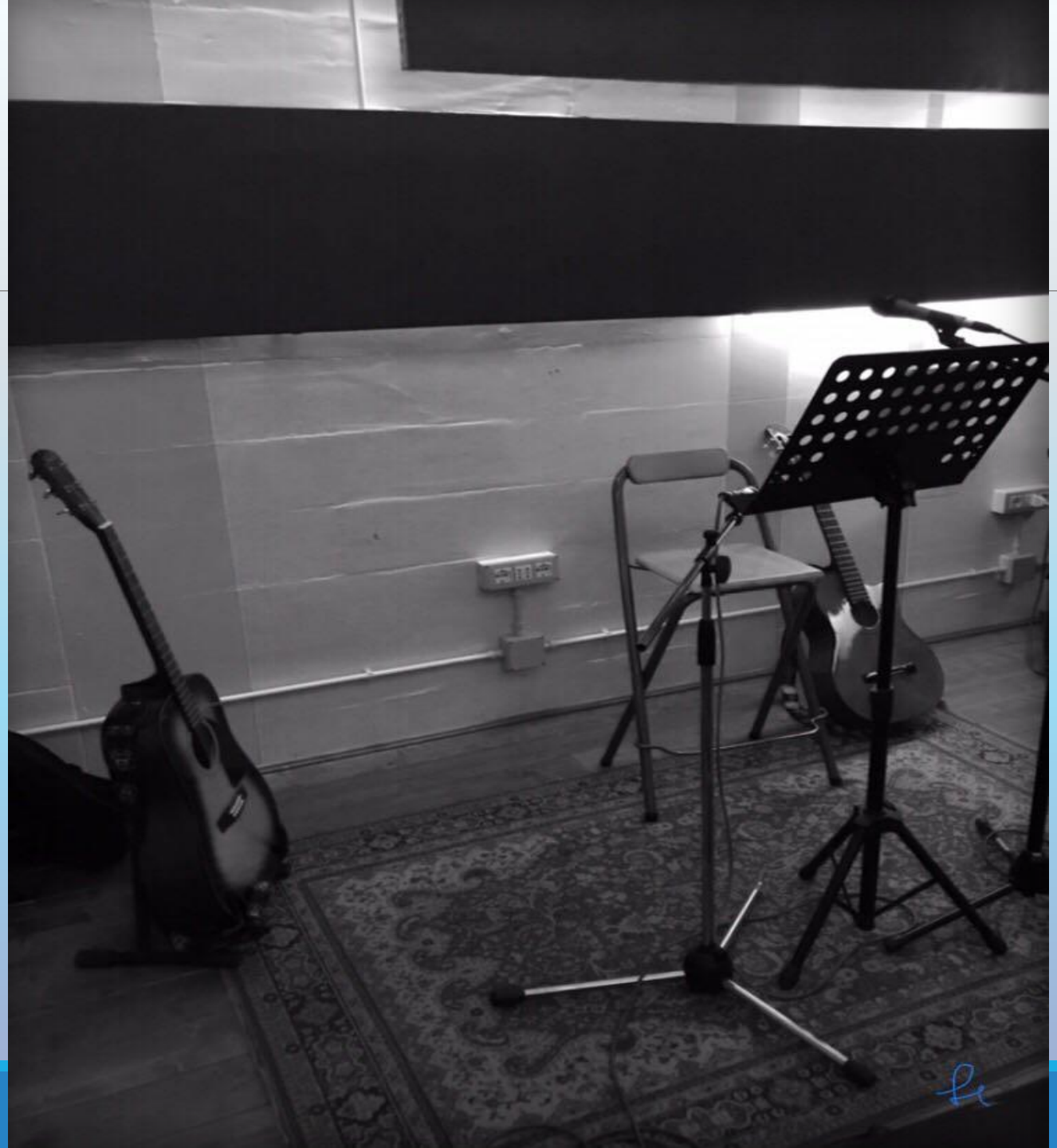


Take home figure Mechanisms linking preterm birth and cardiovascular disease in a nutshell.



Adam J. Lewandowski. Hypertension. Impact of the Vulnerable Preterm Heart and Circulation on Adult Cardiovascular Disease Risk, Volume: 76, Issue: 4, Pages: 1028-1037, DOI: (10.1161/HYPERTENSIONAHA.120.15574)

IGNOTA ARTIFEX



on stage