Primary Care After The Complicated Pregnancy

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Disclosures

Objectives

1. Recognize the long-term health impacts of common pregnancy complications such as pre-eclampsia, gestational diabetes, preterm birth, fetal growth restriction and placental abruption.

2. Identify risk-based screening and intervention recommendations for cardiac and metabolic disease based on common pregnancy complications.

3. Explore emerging research of the effects of pregnancy complications on long-term health outcomes.

Presentation Layout

Questions? Let me know!

PollEv.com/ceelyh469

A few suggestions:

1. Consider adding a slide number for specific questions.

2. Questions are anonymous but feel free to include a name if you would be willing to provide more information during the discussion.

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Why this topic? (credit Dr. Joseph Angel-Padilla, MD)

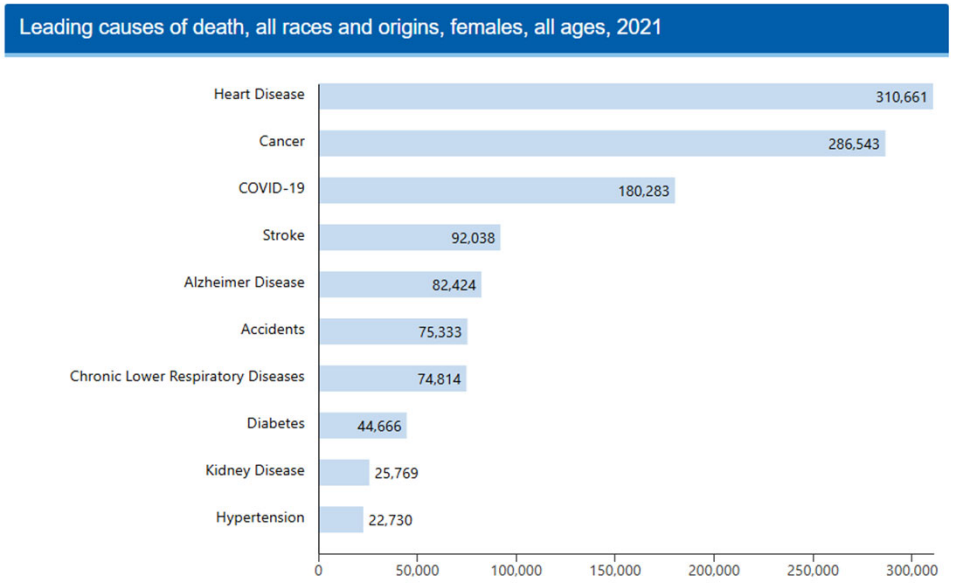
Long Term Complications (Preeclampsia)

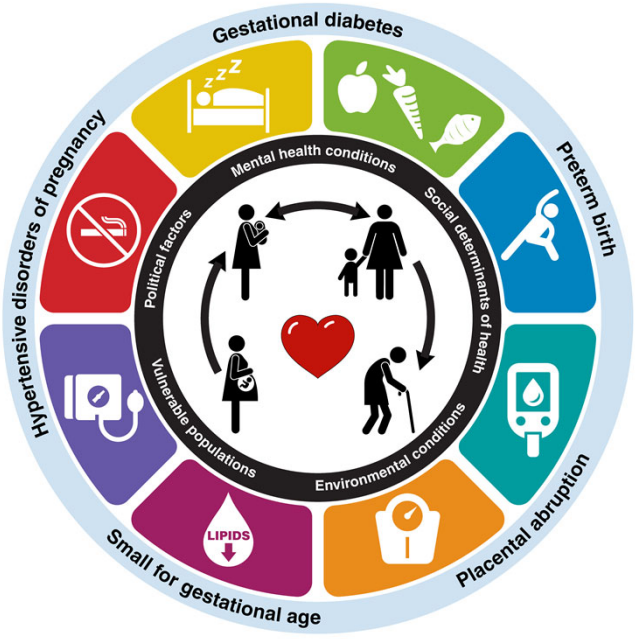
Complication	Risk
ESRD	↑ 5x
cHTN	↑ 4.5x
Heart Failure	↑ 4x
Vascular Dementia	↑ 3x
Coronary Heart Disease	↑ 2.5x
Death from CVD	↑ 2.2x
Cardiomyopathy	↑ 2x
Stroke	↑ 1.8x

Chappell, Lancet, 2021

AAFP CME

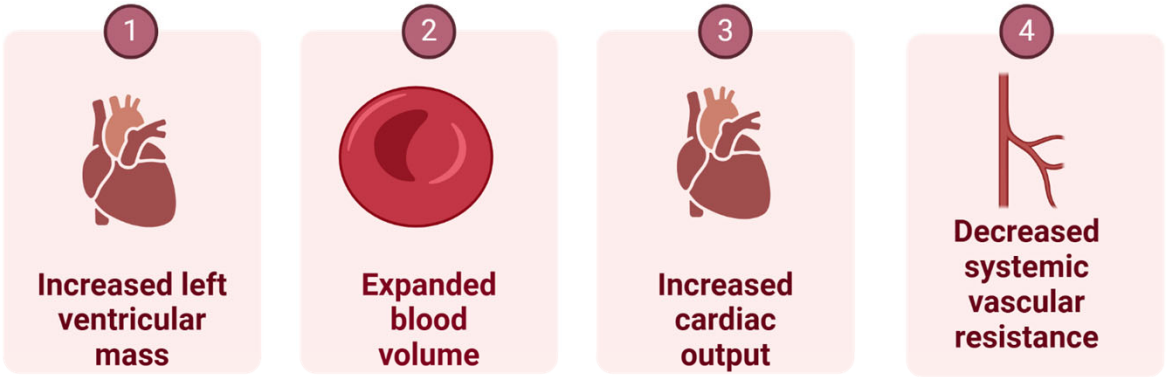
Big Picture





(*Heart Disease Risk Factors in Women Highlight Need for Increased Awareness, Prevention*, n.d.)
(CDC, 2024)

Pregnancy = Stress Test Equivalent



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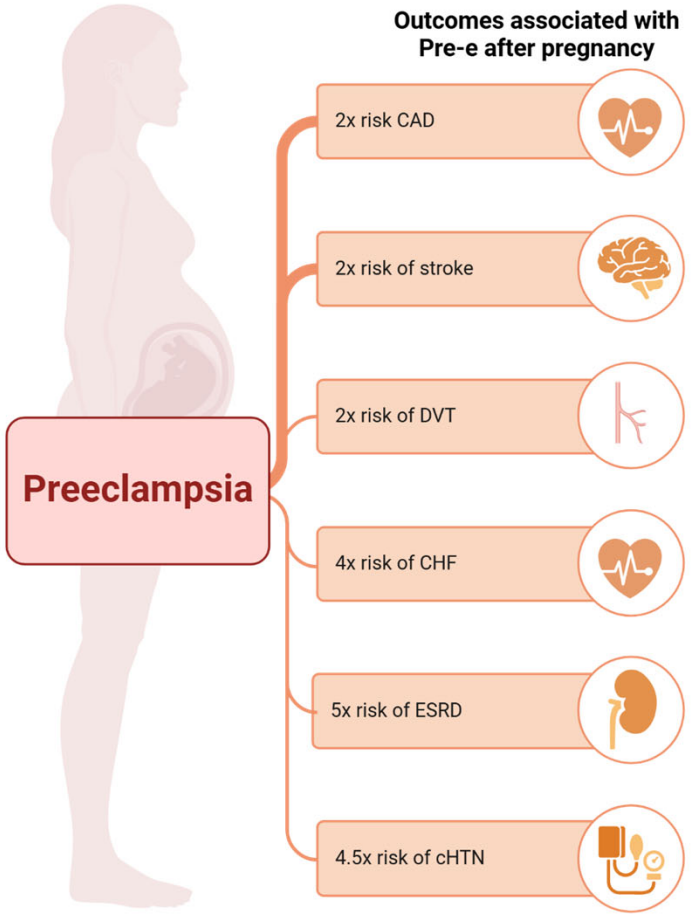
(Yang et al., 2023)

Pre-eclampsia

Long-Term Effects of Pre-Eclampsia



What causes the long-term effects of pre-e on CVD risk?

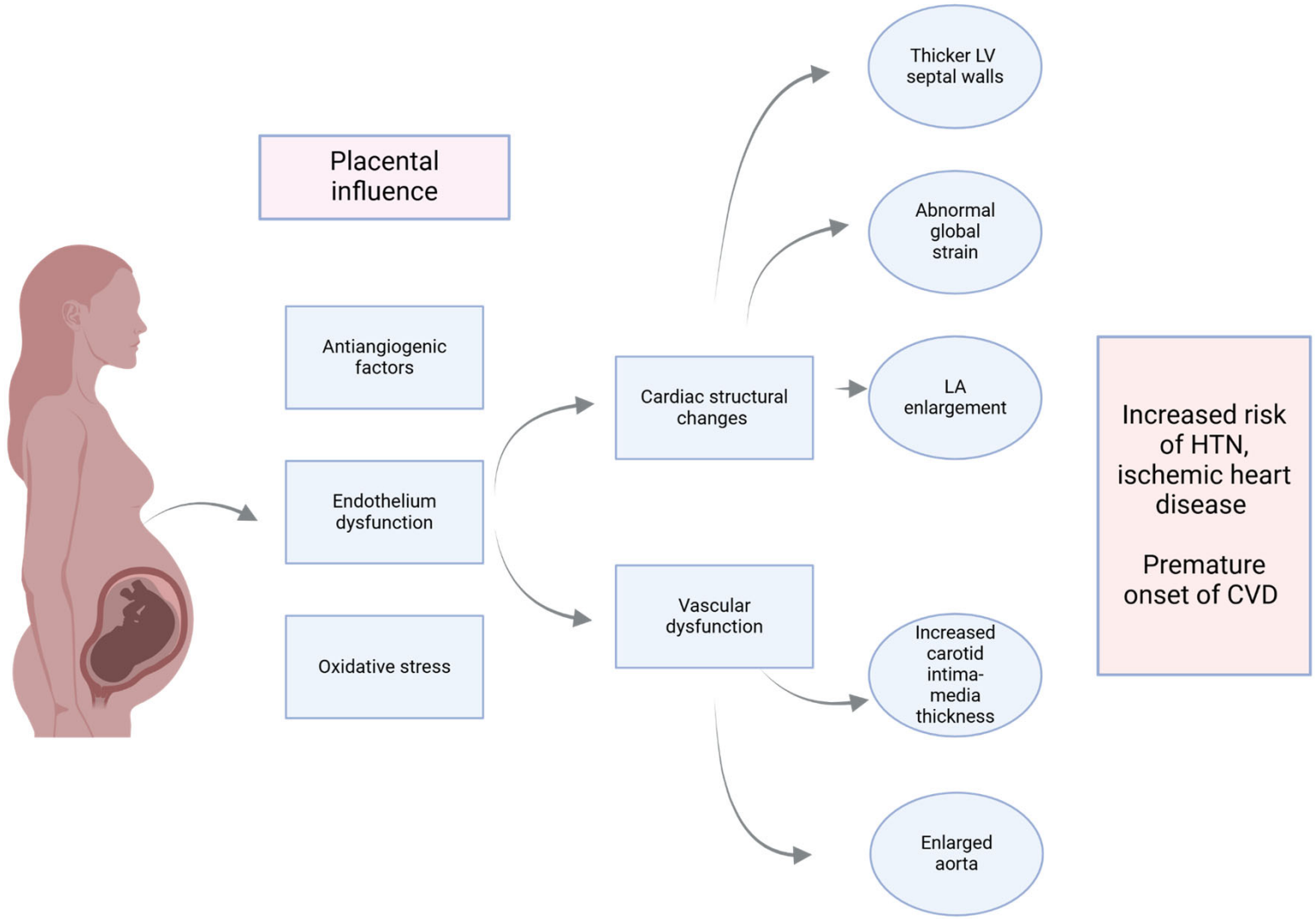
Hypertension
Volume 80, Issue 9, September 2023; Pages 1821-1833
https://doi.org/10.1161/HYPERTENSIONAHA.123.21061

American Heart Association.

REVIEWS

Long-Term Impacts of Preeclampsia on the Cardiovascular System of Mother and Offspring

Chuyu Yang, Philip N. Baker, Joey P. Granger, Sandra T. Davidge, and Chao Tong



AHA Journal, Yang, et al, 6/2023
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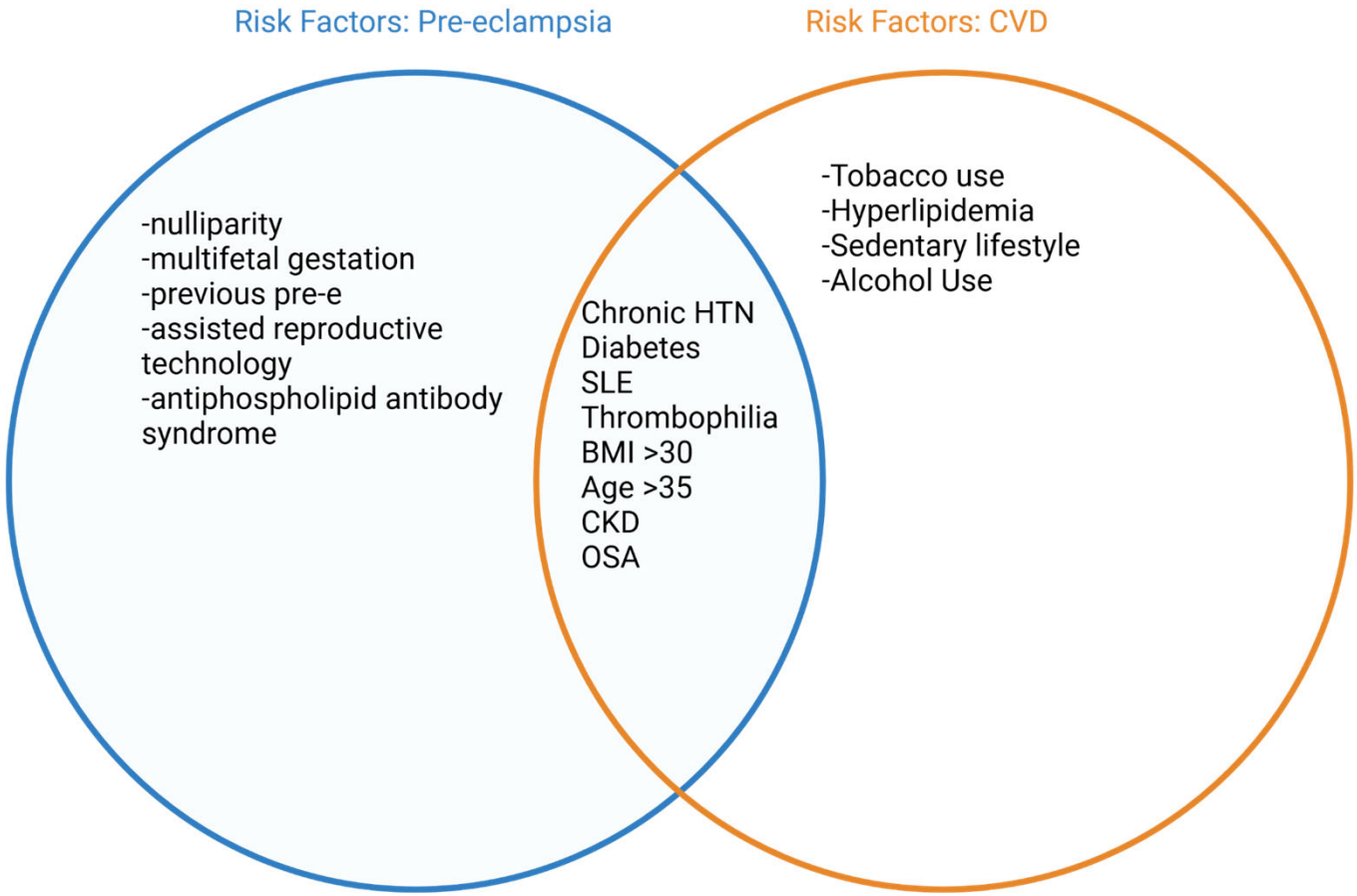

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Screening/intervention recommendation: pre-eclampsia

Prevention of Stroke in Women With a History of Preeclampsia

1.Because of the increased risk of future hypertension and stroke 1 to 30 years after delivery in women with a history of preeclampsia *(Level of Evidence B*), it is reasonable to (1) consider evaluating all women starting 6 months to 1 year post partum, as well as those who are past childbearing age, for a history of preeclampsia/eclampsia and document their history of preeclampsia/eclampsia as a risk factor, and (2) evaluate and treat for cardiovascular risk factors including hypertension, obesity, smoking, and dyslipidemia *(Class IIa; Level of Evidence C*).

AHA Guidelines for the Prevention of Stroke in Women

Postpartum, Physiology, Psychology and Paediatric (P4) Study

EXPOSURE GROUPS

Normotensive pregnancy (n=129)

Preeclampsia (n=52)

METHODS

6 months postpartum

2 years postpartum

- Blood pressure – ambulatory, office, applanation tonometry
- Blood and urine biochemistry
- Subgroup echocardiography

- Data was paired
- 6 month and 2 year cross-sectional analyses between groups + longitudinal analyses within groups

RESULTS

At 2 years, compared to women with previous normotensive pregnancies, women with previous preeclampsia had:

Increased office, central and ambulatory blood pressure.

Increased BMI and insulin resistance scores.

A trend towards cardiac diastolic dysfunction.

No overall improvement 6-months to 2-years postpartum.

Hypertension
Volume 81, Issue 4, April 2024; Pages 851-860
https://doi.org/10.1161/HYPERTENSIONAHA.123.21890

ORIGINAL ARTICLE

Preeclampsia-Associated Cardiovascular Risk Factors 6 Months and 2 Years After Pregnancy: The P4 Study

Amanda Henry, George Mangos, Lynne M. Roberts, Mark A. Brown, Franziska Pettit, Anthony J. O'Sullivan, Rose Crowley, George Youssef, and Gregory K. Davis

(Henry et al., 2024)

Blood pressure management

Table23. BP Thresholds for and Goals of Pharmacological Therapy in Patients With Hypertension According to Clinical Conditions

Clinical Condition(s)	BP Threshold, mmHg	BP Goal, mmHg
General		
Clinical CVD or 10-year ASCVD risk≥10%	≥130/80	<130/80
No clinical CVD and 10-year ASCVD risk<10%	≥140/90	<130/80
Older persons (≥65 years of age; noninstitutionalized, ambulatory, community-living adults)	≥130 (SBP)	<130 (SBP)
Specific comorbidities		
Diabetes mellitus	≥130/80	<130/80
Chronic kidney disease	≥130/80	<130/80
Chronic kidney disease after renal transplantation	≥130/80	<130/80
Heart failure	≥130/80	<130/80
Stable ischemic heart disease	≥130/80	<130/80
Secondary stroke prevention	≥140/90	<130/80
Peripheral artery disease	≥130/80	<130/80

ASCVD indicates atherosclerotic cardiovascular disease; BP, blood pressure; CVD, cardiovascular disease; and SBP, systolic blood pressure.

AAFP 2022 guidelines:
In adults who have HTN, consider target of <135/85 to reduce risk of MI (weak recommendation; moderate-quality evidence).

In adults who have HTN, treat to a <140/90 to reduce risk of all cause mortality (strong recommendation, high quality evidence)

(Whelton et al., 2018)
(*Hypertension*, n.d.)

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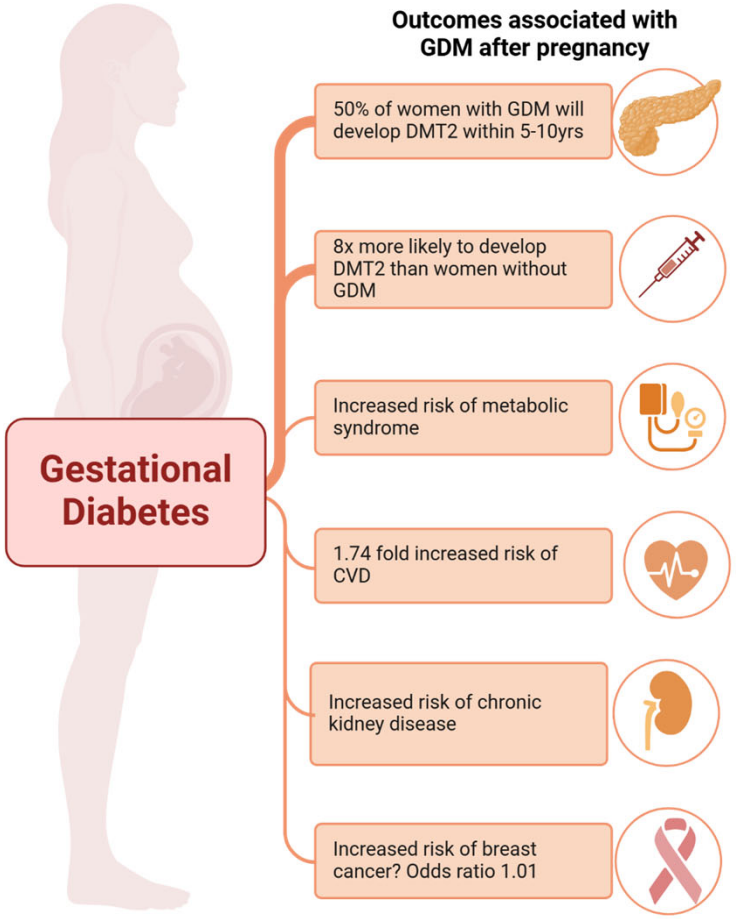
Gestational Diabetes



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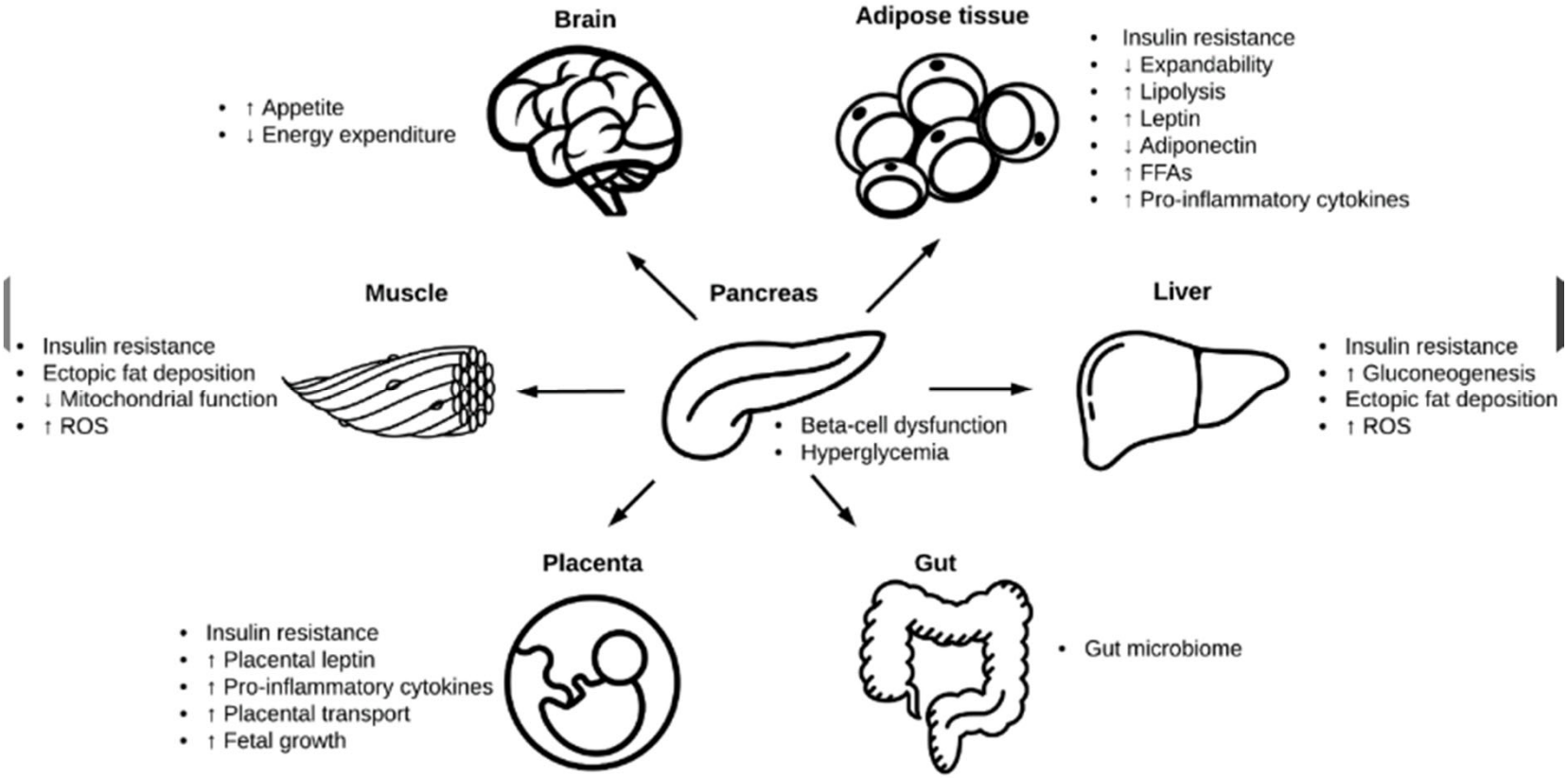

(Plows et al., 2018)

Recommendations

AAFP Screening Guideline:

Women with GDM should be screened at six to 12 weeks postpartum, and every three years thereafter, for abnormal glucose metabolism.

(Sort C, consensus guideline)

Women's Preventative Services Initiative:

Negative initial postpartum screen or negative initial screen
- Screen at least every 3 years for a minimum of 10 years after pregnancy

Positive screen in early postpartum period
- Repeat at least 6 months postpartum to confirm the diagnosis of diabetes regardless of the type of initial test (FPG, HbA1c, OGTT).

Women screened with HbA1c only within the first 6 months postpartum
- Repeat testing is indicated regardless of test result because HbA1c is less accurate during the first 6 months postpartum.

Care gap

-Less than 50% of women diagnosed with GDM are getting any post-partum DM screening

-<10% of patient with GDM had a GTT within 12 wks

-<25% had any type of screening within a year

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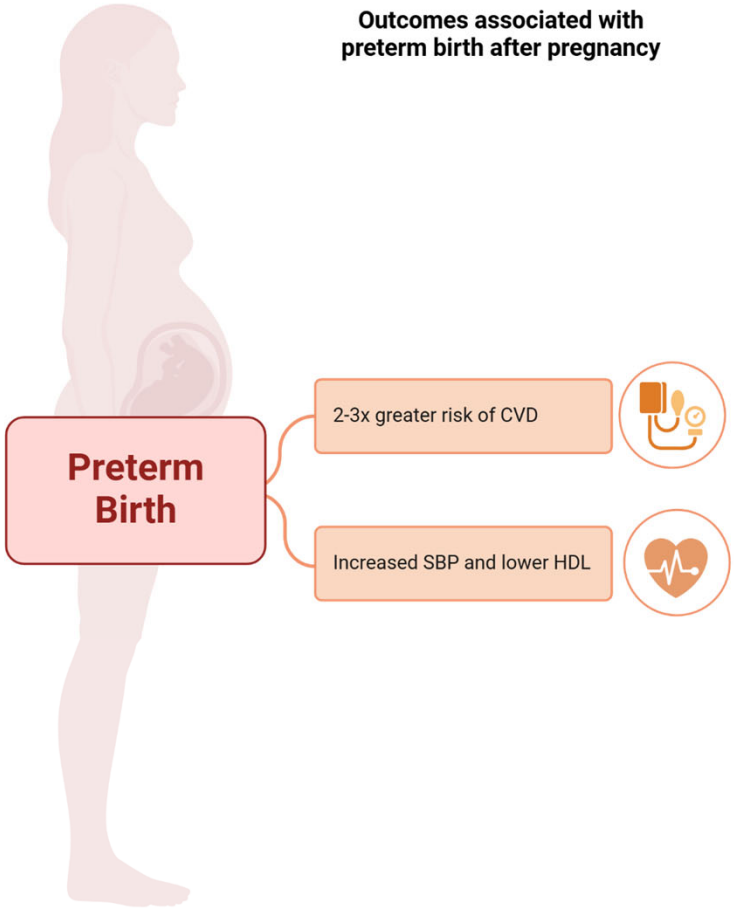
Placental abnormalities

INCLUDING PRETERM BIRTH, IUGR, PLACENTAL ABRUPTION



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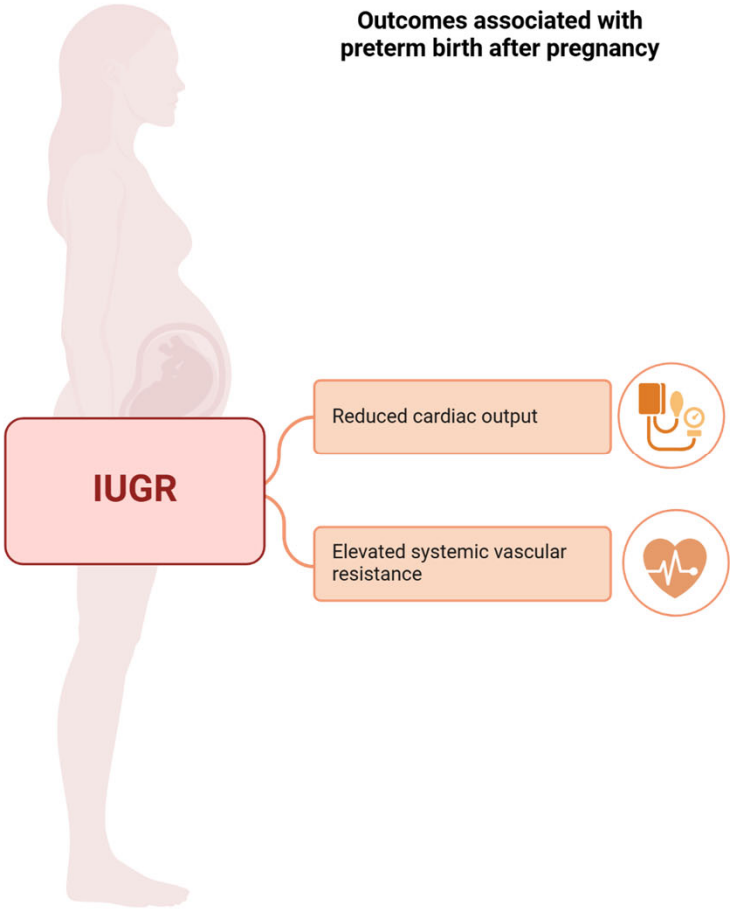

Article published online: 2023-06-26

Original Article e2195

The Association between Fetal Growth Restriction and Maternal Morbidity

Yara Hage Diab, MD[1] Juliana G. Martins, MD[1] George Saade, MD[1] Tetsuya Kawakita, MD, MS[1]

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Address for correspondence Tetsuya Kawakita, MD, MS, Department of Obstetrics and Gynecology, Eastern Virginia Medical School, 825 Fairfax Avenue, Suite 310, Norfolk, VA 23507 (e-mail: tetsuya.x.kawakita@gmail.com).

Am J Perinatol 2024;41(suppl S1):e2195–e2201.

Key Points

- FGR is associated with cesarean section.
- FGR is not associated with severe maternal morbidity.
- FGR is related to pregnancy-associated hypertension.
- FGR is associated with neonatal morbidity.

Created in https://BioRender.com
(Diab, et al., 2024)

Placental Abruption

The Lancet
Volume 366, Issue 9499, 19–25 November 2005, Pages 1797-1803

Articles

Cardiovascular health after maternal placental syndromes (CHAMPS): population-based retrospective cohort study

Dr Joel G Ray MD [a], Marian J Vermeulen MHSc [b], Michael J Schull MD [c], Prof Donald A Redelmeier MD [c]

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Recommendations: Pre-pregnancy

CHAP Trial; Chronic Hypertension and Pregnancy

Patient with BP <140/90 had fewer adverse outcomes

↓ risk of pre-eclampsia with SF

↓ risk of preterm birth

↓ risk of placental abruption

↓ risk of fetal death

Pre-pregnancy HTN control with pregnancy safe medications (labetalol, nifedipine, hydralazine, methyldopa)

American Heart Association

Goal BMI of <25

Weight loss of 10% prior to conception can can reduce risk of pre-e, GDM, preterm delivery, macrosomia, stillbirth (level B)

American Diabetes Association

Counsel of risk of DM in pregnancy

Offer contraception until A1C is <6.5% to minimize complications

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Recommendations: Post-pregnancy

1. Take an obstetric history as part of all well-women exams including pre-eclampsia, GDM, placental abruption, fetal growth restriction, preterm birth as risk factors.

2. **Pre-eclampsia**: evaluate and treat for underlying risk factors of CVD, consider treating with a BP threshold of 130/80.

3. **GDM**: Screening at 6-12 wks postpartum as well as every 3 years after. Evaluate and treat for underlying risk factors of CVD.

4. **Placental Abnormalities**: Consider risk-factors in total, including what may have been a "failed stress test." Hopefully more formal guidelines are to follow in future.

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Questions?

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