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Letter to Editor

Metformin as First-Line Therapy in Gestational Diabetes Mellitus (GDM)

A Comparison Across DIPSI, NICE, SIGN, FIGO, Endocrine Society, SMFM, and ADA Guidelines

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1. Metformin in DIPSI Guidelines

DIPSI (Diagnosis & Management of Gestational Diabetes Mellitus, 2021 — Diabetes in Pregnancy Study Group India, published via FOGSI) does not list metformin as first-line. Insulin is the drug of choice and is recommended for use in pregnancy as it does not cross the placenta (FOGSI/DIPSI, 2021). [1]

Metformin has a secondary role: it is useful for obese women or for women who are already on it, but it should not be prescribed for women with GDM if there is significant organ dysfunction, hypertensive disorders of pregnancy, fetal growth restriction, or other high-risk factors (FOGSI/DIPSI, 2021). [1]

2. Guidelines Where Metformin Is First-Line

NICE (UK)

NICE recommends that women with gestational diabetes should be offered metformin if blood glucose targets are not met with diet and exercise within 1-2 weeks. [2]

SIGN (Scotland)

SIGN guidelines recommend that metformin or glibenclamide may be considered as initial pharmacological glucose-lowering treatment in GDM. [2]

FIGO and Endocrine Society

FIGO, NICE, and the Endocrine Society guidelines consider insulin, glyburide, and metformin as appropriate first-line therapies for GDM. [3]

SMFM (United States)

The SMFM Publications Committee concludes that in women with GDM in whom hyperglycemia cannot be adequately controlled with medical nutrition therapy,

metformin is a reasonable and safe first-line pharmacologic alternative to insulin, recognizing that about half of women will still require insulin to achieve glycemic control (SMFM Statement, reaffirmed 2024). [4]

Metformin has a secondary role: it is useful for obese women or for women who are already on it, but it should not be prescribed for women with GDM if there is significant organ dysfunction, hypertensive disorders of pregnancy, fetal growth restriction, or other high-risk factors (FOGSI/DIPSI, 2021). [1]

3. Guidelines Where Insulin Remains First-Line

ADA (United States)

Most experts concur that insulin is safe for the fetus and newborn, and the American Diabetes Association endorses insulin as first-line treatment for GDM (SMFM Statement, AJOG, 2018). [5]

DIPSI / FOGSI (India)

As discussed in Section 1 above. [1]

4. Summary Table

Guideline	Position on Metformin
NICE (UK)	Recommends offering metformin if blood glucose targets are not met with diet and exercise within 1–2 weeks — effectively first-line pharmacological agent after lifestyle measures. [2]
SIGN (Scotland)	Metformin or glibenclamide may be considered as initial pharmacological glucose-lowering treatment. [2]
FIGO	Considers insulin, glyburide, and metformin all as appropriate first-line therapies. [3]
Endocrine Society	Lists insulin, glyburide, and metformin as appropriate first-line therapies. [3]
SMFM (USA)	Concludes metformin is a reasonable and safe first-line pharmacologic alternative to insulin when hyperglycemia is not controlled by nutrition therapy, though roughly half of patients still need insulin added. [4]

5. Note on Sources

The citations above are drawn from secondary/review sources located via literature search, which summarize the primary guideline documents (Reference 1 links directly to the DIPSI/FOGSI document). For clinical or publication use, it is recommended to verify statements directly against the primary guideline documents — NICE NG3, SIGN 171, the FIGO 2015 Initiative, and the DIPSI 2021 guideline — rather than relying solely on secondary citations.

References

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