

EP17.63. Placental pathology lesions in stillbirths linked to placental insufficiency: Classification and phenotyping of 101 cases

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Objectives

- To characterize placental lesions among stillbirth cases linked to placental insufficiency occurring in late preterm and term pregnancies

Methods

- Cross-sectional study at the Instituto Nacional de Perinatologia, Mexico City (2017 – 2024)
- Singleton stillbirth cases ≥ 28.0 weeks of gestation (i.e., late preterm/term stillbirth) were included
- Pregnancies with genetic syndromes, structural abnormalities, vertical infections, and twin pregnancies were excluded
- Placental lesions were categorized into four major groups according to the Amsterdam Placental Pathology Classification System and Freedman et al. phenotype grading system: acute inflammation, chronic inflammation, fetal vascular malperfusion (FVM), and maternal vascular malperfusion (MVM)

Results

A total of 101 stillbirth cases met the inclusion criteria, with the following placental lesion occurrence (Figure 1):

- The most common lesions identified were MVM, with low-grade lesions documented in 30.7% (N=31) of cases and high-grade lesions in 38.6% (N=39), Figure 2
- FVM was observed in 23.8% (N=24) for low-grade and high-grade in 26.7% (N=27), Figure 2
- Low-grade acute inflammation was observed in 2% (N=2), and high-grade in 19.8% (N=20)
- Low-grade chronic inflammation was observed in 7.9% (N=8), and high-grade was observed in 19.8% (N=20)

Conclusions

- In this large series of stillbirths associated with placental insufficiency, fetal and maternal vascular malperfusion lesions were prevalent
- The findings highlight the importance of systematically assessing placental pathology and biomarkers that could identify underlying phenotypes, which could enhance risk profiling for stillbirth and improve fetal and neonatal outcomes

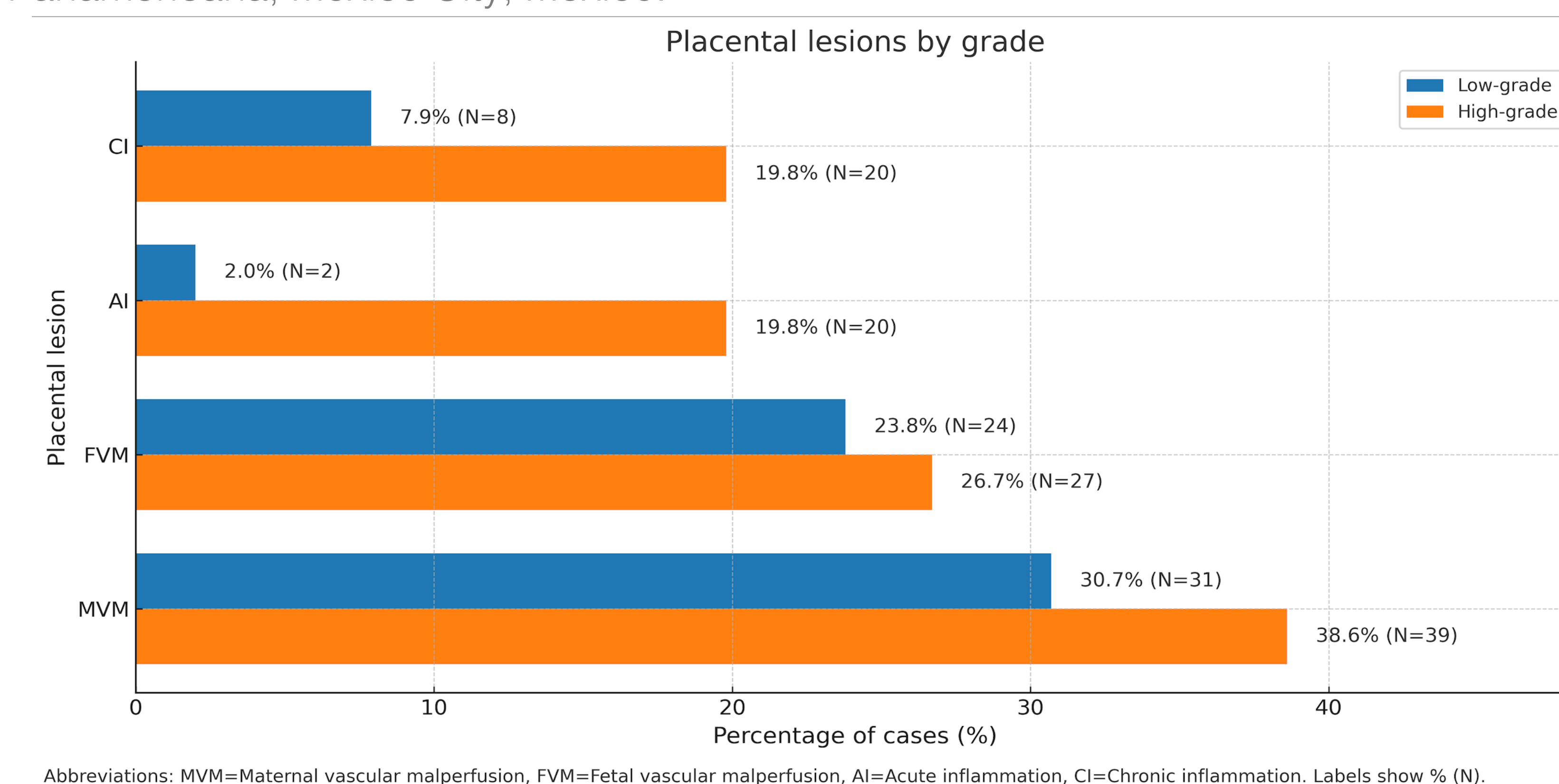


Figure 1. Placental lesions stratified by grade

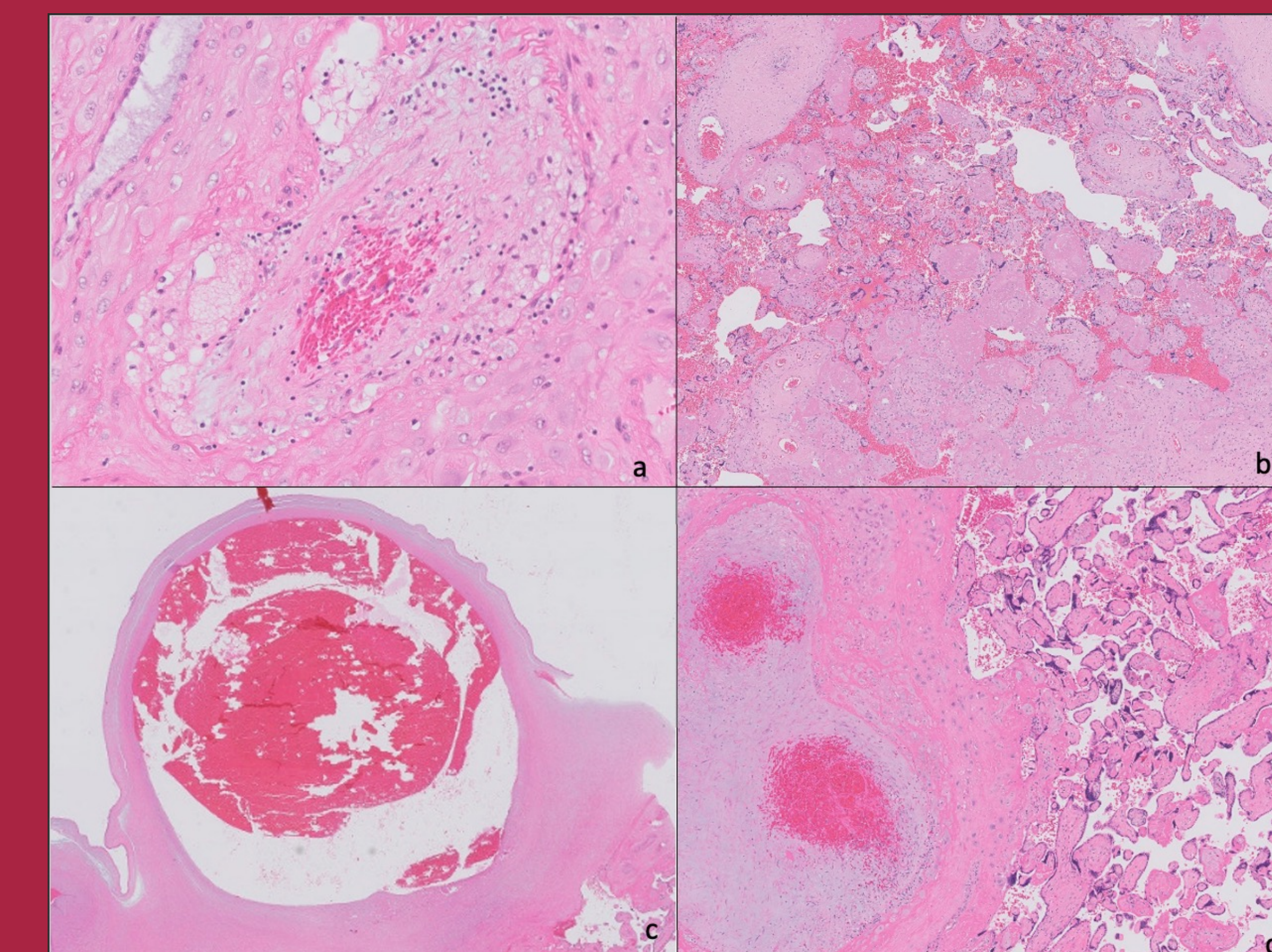


Figure 2. a) H&E 40x, MVM. b) H&E 10x, MVM. c) H&E 10x, FVM. d) H&E, 10x, FVM