**Additional file 1: Table S1.** Summary of literature review and our study about morula stage.

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| --- | --- | --- | --- | --- |
| Authors and publication year | Studied morulas and stages | Main outcome measurement | Strengths | Limitations |
| Fabozzi *et al.*, 2016 [3]  | Day 4 morulas in fresh cycles | * BFR/top-quality BFR per morula category
 | Better BFR prediction at the morula stage with respect to day 3. | * No data on FET cycles
* No data on delayed morulas
 |
| Ivec *et al.*, 2011 [9] | Day 5 morulas in fresh cycles | * BFR/optimal BFR per morula grade
 | Analyzed the growth potential of delayed and/or incomplete compaction morulas. | * No data on FET cycles
* No differences of BFR among day 5 grade I/II/III morulas
 |
| Haas *et al.*,2019 [4] | Day 5 morulas in fresh cycles | * BFR (blastulation rate)
 | Large number of embryos. | * No morulas grading
* No data on FET cycles
 |
| Tao *et al.*, 2004 [10] | Day 4 morulas in FET cycles | * Post-thaw morula survival rate
* Pregnancy rates
 | Reported the survival rate of post-thaw morulas, its morphological alterations during freezing-thawing procedures and outcomes after FET. | * No data for delayed morulas
* No information about BFR of the morulas
 |
| Tsai *et al.,*2019 | Day 5/6 morulas in FET cycles | * Post-thaw morula survival rate
* BFR/top-quality BFR per morula grade
* Pregnancy rate
 | Reported the growth potential of delayed and/or incomplete compaction morulas in FET cycles. | * Further studies may be required to compare the BFRs of day 5/6 morulas in fresh and in FET cycles.
 |

BFR, blastocyst formation rate; FET, frozen embryo transfer.