

## CHATER VI

### CONCLUSION

Development of hamster embryos *in vitro* was affected by osmolarity of the culture medium. High osmolarity medium was deleterious to the development of two-cell and eight-cell embryos *in vitro*. However, amino acids (glycine, glutamine, and taurine) could possibly protect embryos, to a certain limit, from such harmful effect. The following results were observed in this experiment:

1. Development of the eight-cell hamster embryos to blastocysts decreased in high osmolarity medium (325-375 mOsmol) compare to that in normal osmolarity medium (275 mOsmol).
2. Development of the eight-cell hamster embryos to blastocysts in HECM-10 medium supplemented with glutamine alone or in combinations with taurine or glycine, at 275 mOsmol, were significantly better than those in medium without amino acid (control).
3. At 325 mOsmol, the percentages of blastocyst obtained in medium containing taurine, glutamine, and all three amino acids were higher than that of the control group.
4. At 375 mOsmol, very few eight-cell embryos developed to blastocysts. However, better development of these embryos to morulae were obtained in medium containing glutamine, taurine plus glutamine, glutamine plus glycine, and glutamine plus glycine plus taurine, than in the control medium.
5. Two-cell hamster embryos were not able to develop beyond the eight-cell stage in HECM-10 neither with nor without amino acids at 275 mOsmol. Nevertheless, the percentages of four-cell embryos in HECM-10 supplemented with glycine and glycine plus glutamine were significantly higher than that of the control group.