

# Opinion on the creation of human embryonic organ and tissue collections and their use for scientific purposes

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Research in the field of embryo genesis and development is important. Animal models, such as drosophila and mice, or fertilized eggs of the hen or quail, have made enormous contributions to progress in understanding fundamental data. Such data needs to be confirmed as regards human beings and for that purpose human embryonic organ and tissue samples are required.

For embryonic tissue and organs to be stored, samples have to be fixated or frozen which destroys their viability. Only cognitive research can ensue.

Ever since its creation, questions have been put to the CCNE regarding ethical problems arising out of research using dead human embryonic and foetal samples. This was the subject of the Committee's first Opinion dated 22nd May 1984. The proposals expressed in that Opinion have since served as guidance for research programmes.

Development of research requiring human embryonic sampling led to considering the possibility of creating human embryo cell collections and this prompted the CCNE to add a complement to Opinion n° 1.

## Recommendations

### **A) - Collections of pathological human embryo tissues and organs.**

When particularly severe anomalies are discovered and as a result elective abortion is performed, the embryo (or foetus) is examined.

Most of the diseases which cause such anomalies are rare. They can be the subject of research for which small collections of embryonic tissues or organs need to be constituted in laboratories engaged in the study of the anomalies.

The CCNE's thinking on this subject has not changed since writing Opinion n° 1.

### **B) - Collections of normal human embryo tissues and organs.**

Many kinds of research need to use human embryonic and foetal tissue, in particular in order to gather data on phenomena and substances which are specific to foetal life : active genes, growth factors, embryonic and foetal protein isoforms, etc. Apart from the importance of such research to gain better understanding of the development of the human foetus or embryo, it also leads to medical results of the highest importance, in particular

because of similarities between certain foetal and embryonic development phenomena and cancers. Furthermore, some factors which have a vast therapeutic potential are only secreted during the foetal phase. Therefore, the possibility of using human embryonic tissues and organs must be maintained, whilst observing conditions stipulated by the CCNE's Opinion n° 1. In any case, a collection of embryonic tissue must be part of a specific research protocol, with commitments from research and clinical teams, and after submission to an Ethics Committee.

A systematic collection of normal dead embryos, whose source is elective abortions, unconnected to any specific research project but with the aim of making tissues and organs obtained in this way available to research teams, is a very different matter.

In Opinion n° 1, the CCNE had already insisted on the exceptional nature of the use of embryos " so as to avoid use turning into pressure for widespread abortion and becoming just another routine procedure."

It is a fact that systematic embryo collection unconnected to any specific research project raises significant ethical problems.

- Informed consent from any woman requesting elective abortion becomes necessary. Knowledge that the embryo will be harvested to be part of a collection may influence a woman's decision and the systematic aspect establishes a link between elective abortion and the use of embryos, which may have controversial consequences as regards application of the law.

- The existence of collections of normal human embryonic tissues and organs will encourage the attitude that an embryo is just ordinary, almost systematic, research " material " .

The fact that human embryo tissue and organ collections exist could well modify the spirit in which are conducted research programmes. Up to now, a programme is generally the continuation of previous research on an animal model so as to extend data obtained to human beings and co-operation with obstetricians is organised to obtain the necessary samples.

If collections existed there could be a reversal of the system and research programmes planned because of the existence of available specimens.

Systematic collection also requires :

- methodical co-operation with hospital medical staff in charge of elective abortion procedures to whom technical modifications, possibly constraining, would be suggested, with no definite aim and with the attendance on a regular basis, in addition to medical staff, of technicians qualified to select and store specimens in such a way that they retain whatever qualities are required for use in as yet undefined research protocols.

The above considerations motivate the CCNE to recommend that :

1. collection and use of normal embryonic tissue or organs should remain exceptional and only be discussed within a well defined research protocol which has been submitted to the Commission Nationale de Médecine et de Biologie de la Reproduction et du Diagnostic Prénatal. (National Committee on Reproductive Medicine and Biology and on Antenatal Diagnosis).

2. in the absence of a specific purpose, no systematic constitution of collections of normal embryonic tissues and organs should be undertaken.