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Federale Commissie Med. & Wet. Onderzoek met Embryo's (FCE)
Symposium 'Recent developments in human embryo research'
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Embryo-like structures: ethical exploration

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Conflict of interests:

No

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I. Introduction

The relevance of ELSI-research for the life sciences

Aim of ELSI/ethics-research: contribute to *responsible* innovation

At the interface of Stem Cell-research, regenerative & reproductive(?) medicine: embryo-like structures (ELS)→

What about the ethics of human ELS?

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Introduction (cont.)

Questions:

Conceptual
&
Normative

A detour via the *traditional* Human Embryo Research (HER) debate (NB ''instrumental'/''non-therapeutic' research)

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II. Human Embryo Research (HER): the traditional debate

Central (but often disregarded): the *concept* of the embryo

Necessary and sufficient conditions/defining characteristics?

- Fertilization (F; cf Spanish law) – different versions

  * Dolly/SCNT →

- Potentiality (P) – different versions

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HER: the traditional debate (cont.)

P1: 'Commencing' development

P2: 'Potential to develop into a human being':
Dutch & Belgian Act on Embryos →

the non-viable embryo is a *contradictio in terminis*

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HER: the traditional debate (cont.)

The status of the (preimplantation) embryo
3 different views → do E deserve protection 'in their own right'?
→ implications for HER

- a person right from the start → HER is deeply problematic

- just a cluster of cells → HER is morally indifferent

- (dominant) though not a person, E is special - in view of its potential *(but why?)* → conditional justification of HER

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HER: the traditional debate (cont.)

The potentiality argument: variants

Active vs passive potentiality, or
the potential to become vs the potential to produce (Buckle)

Reductio ad absurdum: active potentiality of gametes …?
the prerequisite of identity/ontological individuality

Implications for the status of the preimplantation embryo:
just *symbolic* value?

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HER: the traditional debate (cont.)

Conditions for HER

Procedural

- informed consent & central ethics review

Material (balancing)

- proportionality: only if the aim of HER is important
- subsidiarity: only if there are no alternatives – ELS?
- max. 14 days: contested; implications for ELS?
- some countries (incl. the Neth.): just spare embryos, no 'research embryos': implications for ELS?

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III. The dynamics of ELS

ELS include:

Blastoids: mESC & mTSC → resemble blastocysts, show features of implantation (in mice)

Gastruloids: mESC → show post-implantation development in vitro, incl. primitive streak

ETX-embryos: mESC & mTSC & extra-embryonic endoderm→ show implantation and brief development (in mice)

…? etc.

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Dynamics of ELS (cont.)

Aim and expectations: a *better/perfect replica* of the ('natural') embryo →

> research in embryology, toxicology, fertility, etc.

The very same features that make ELS scientifically interesting also give rise to normative (ethical & regulatory) questions.

* analogy: research with great apes vs human subjects

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IV. Ethics of (human) ELS

Pro-active normative reflection: distinguish both

1. Research & 2. (maybe …) Reproduction

A. Conceptual &

B. Normative issues

Ethics of ELS (cont.)

IV.1.A. Conceptual issues

1. Are ELS embryos?

- if F is a necessary condition: no. But problematic.
- if P is a sufficient condition: it depends. E.g.
  - P1 probably yes, but P2? Treat *as if* …?
  - P2 could be knocked-out → 'down-grading'

  NB scrutiny of active potentiality

Ethics of ELS (cont.)

2. Would the making of human research ELS involve non-reproductive human cloning?

- definition and types of cloning, incl. *embryo* cloning

- analogy: 'therapeutic'/non-reproductive cloning (SCNT)

Ethics of ELS (cont.)

IV.1.B. Normative issues incl.

- if (some types of) ELS are embryos (→ if the AoE applies)
  - subsidiarity; jumping to 'categorial' conclusions (reg. all ELS); no donor oocytes needed
  - in a.o. Belgium, 'research embryos' are not prohibited→ neither should ELS – but:
  - the 14-day rule: some ELS have primitive streak-like features *right from the start …*

Ethics of ELS (cont.)

- if (some types of) ELS are *not* embryos (→ if the AoE does not apply): they may still have some moral standing:
  - sentience (cf brain organoids);
  - other features relevant for symbolic value?

Is some regulation still needed?

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IV.2. human ELS for reproduction?

Preliminary questions:
- is such reproductive use *realistic* or *science fiction*?
- would this serve a legitimate reproductive aim, need, or interest? If so, how/which one?

A. Conceptual Issues
- wouldn't this involve reproductive human cloning?
- other?

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Human ELS for reproduction? (cont.)

B. Normative Issues

If this would/could involve reproductive human (adult or embryo) cloning, the ethics of such cloning is back on the agenda: what about possible moral objections?
- deontological: dignity; unnaturalness; other?

- consequentialist:
  - health risks for children thus conceived?
  - Brave New World (a 'mixed' objection)
  - other?

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