

Ethical Issues on Embryonic Stem Cell Research

146- 92

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Abstract

Harvesting stem cells is inevitably associated with destruction of early embryos. There have been continuing challenges to devalue the moral status of early embryos. The distinction between preembryo and embryo was mainly based on the lack of individuation. The term preembryo had been introduced by a frog embryologist and then was literally spread around the world because of policy reasons. Thus the definition of preembryo is not yet complete and the term has not yet been used in most medical textbooks including textbooks of human embryology. Preembryo is a period during human development and therefore should be regarded as valuable as an early form of human life. Obtaining embryonic stem cells using SCNT (Somatic Cell Nuclear Transfer) is often called therapeutic cloning as opposed to reproductive cloning that produces human beings by SCNT. Therapeutic cloning used same SCNT to produce human embryos, and therefore it is essentially a process of human cloning. Human cloning is prohibited in most of the world due to ethical issues. Cloning primates including humans using SCNT has not been successful, however, recently there has been a remarkable progress with the help of improved technology of therapeutic cloning. Other countries also recognize the enormous potentials of cloned embryonic stem cells, but no country other than Korea and the UK has allowed therapeutic cloning for fear of the "slippery slope" towards human reproductive cloning. Ongoing researches of therapeutic cloning should be monitored carefully and a broad consensus is needed before allowing further therapeutic cloning. Eventually more ethical ways of obtaining embryonic stem cells should be developed.

Keywords : Stem cell; Preembryo; Somatic Cell Nuclear Transfer; Cloning

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(5). 40 (280)
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(266)가 .

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8

(embryo),

(fetus)

(10).

(pro choice)

(6).

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(primitive

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14)

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preembryo

(per-

2004 1 , 2005 1 2

son)

(6~8).

(11).

Preembryo

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(person)

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(fertilization)

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가 ?

24

가

가 ,

(person)

가

(genome)가

가 가

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가 . ,

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4 ~ 8

.“ (human life)

(11, 12).

가 (14~16).

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가 preembryo 14

가

preembryo

“pre-

embryo (human)

(person)†

가

(biologic individuality)

가

14

(human person)

(primitive streak)가

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(11).

가

가

preembryo

3~8

(17).

14

preembryo

preembryo

(11).

O Rahilly

preembryo

가

10~15%

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60%

(13).

(18).

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가

‘ (person) ?’

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가

가

(personhood)

preembryo

가 ,

Grobstein

Warnock Commission

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가 clear Transfer) 가 . 1997 “ 가 ” 가 . 가 (therapeutic cloning) (reproductive cloning) (20). 가 . (19). (Cloning- for - Biomedical- Research), (Cloning to- Produce Children) (21). 가 (zygote) 가 (clone) 가 가 “ ” 가 ? (22). (Somatic Cell Nu-

(epigenetic reprogramming)

69.7%,
24%

(blastocysts)
(28).

가

가

(23).

가 가

가?

(24).

135

25

가

(6).

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(25).

(21).

가

1997

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(26).

(embryonic cell nuclear transfer)

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가

가

(29).

가

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가

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가

(27).

가

(fused oocytes)

1. . 1999
2. , 2001
3. , 2004: 19 - 47
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Peer Reviewer Commentary

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, () () , () (person)

“preembryo “ ”