

Ethical Issues in the Use of ECMO in Donor

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“During this period organ transplants have emerged from the status of a controversial, innovative therapy and have become something closer to routine”

How to manage the conflicts

- Consequentialism, Deontology, Motivism,
Liberal individualism, Communitarianism, ...
- Dead donor rule
- Balancing potential benefits and risks of harm for patients,
families, and health professionals

The ethics of organ transplantation

- Deciding when human beings are dead
- Deciding when it is ethical to procure organs
- Deciding how to allocate organs, once procured

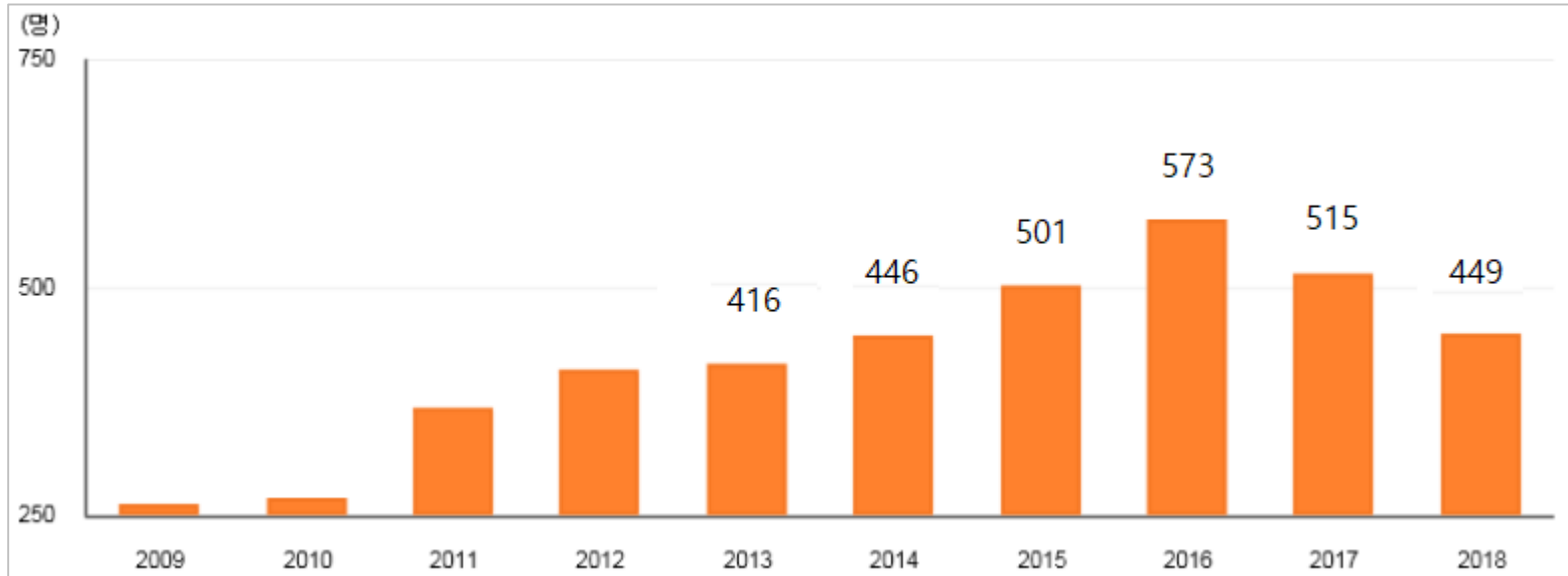
Organ Preserving ECMO (OP-ECMO)

- Extracorporeal support not to save the patients' life, but to preserve their organs for transplantation
- Brain death
 - when it is ethical to procure organs
- Circulation death
 - when it is ethical to procure organs, when human beings are dead

Background of OP-ECMO

- Supply << Demand
- Increasing organ procurement
- Improve graft outcome (warm ischemia time ↓)

Deceased organ donation in Korea



Deceased organ donation in Korea

- Donation after circulation determination of death (-)
- Manpower problems
- Delayed test regarding brain death
- Decide to withdrawing life sustaining treatment (W-LST)

Ethical Issue in OP-ECMO in brain death

ECMO in brain death

- Hemodynamically unstable brain-dead potential organ

donor **+ ECMO**

→ Reducing organ damage, Increasing chance for donation

ECMO in brain death

1. Patients on ECMO, who develop brain death
2. OP-ECMO implemented for hemodynamically unstable brain-dead potential organ donors (OP-ECMO in DBDD)
 - (1) OP-ECMO in the brain-dead patient
 - (2) OP-ECMO in the not-yet brain dead patient
 - (3) OP-ECMO in the not-yet tested brain dead patient

Patients on ECMO, who develop brain death

- The purpose of using ECMO
: therapeutic approach → organ preserving
- Technical challenge of diagnosing brain death

OP-ECMO in the brain-dead patient

- Patients; damage their body and physical integrity
- Family members, Health professionals; psychological harm (1) invasive procedure, (2) instrumentalizing death, (3) confusion of ECMO's purpose
- In Korea,
 - brain death determination for transplantation purpose
 - insurance for OP-ECMO
 - : the risk to convert from therapeutic ECMO to OP-ECMO because of financial reason

OP-ECMO in the not-yet brain-dead patient

- the not-yet brain-dead patient (≡ 뇌사추정자)
 - hasten death as increasing the risk of intracranial bleeding
 - without benefit if brain death never occurs
 - the possibility of suffering
- the not-yet tested brain-dead patient (≡ 뇌사판정대상자)
 - the possibility of suffering because the residual cerebral functions still cannot be excluded

When it is ethical to apply OP-ECMO



Organ procurement process in Korea

Conflict of Interest (COI) in organ donation

- 1st gain \ll 2nd gain, acting in a biased way because of personal interest
 - 1st gain in donation \sim transplantation
 - Respect donor ? Save a life ?
 - Organ donation... only benefit to third party
- So, Respect donor !!

Conflict of Interest in organ donation

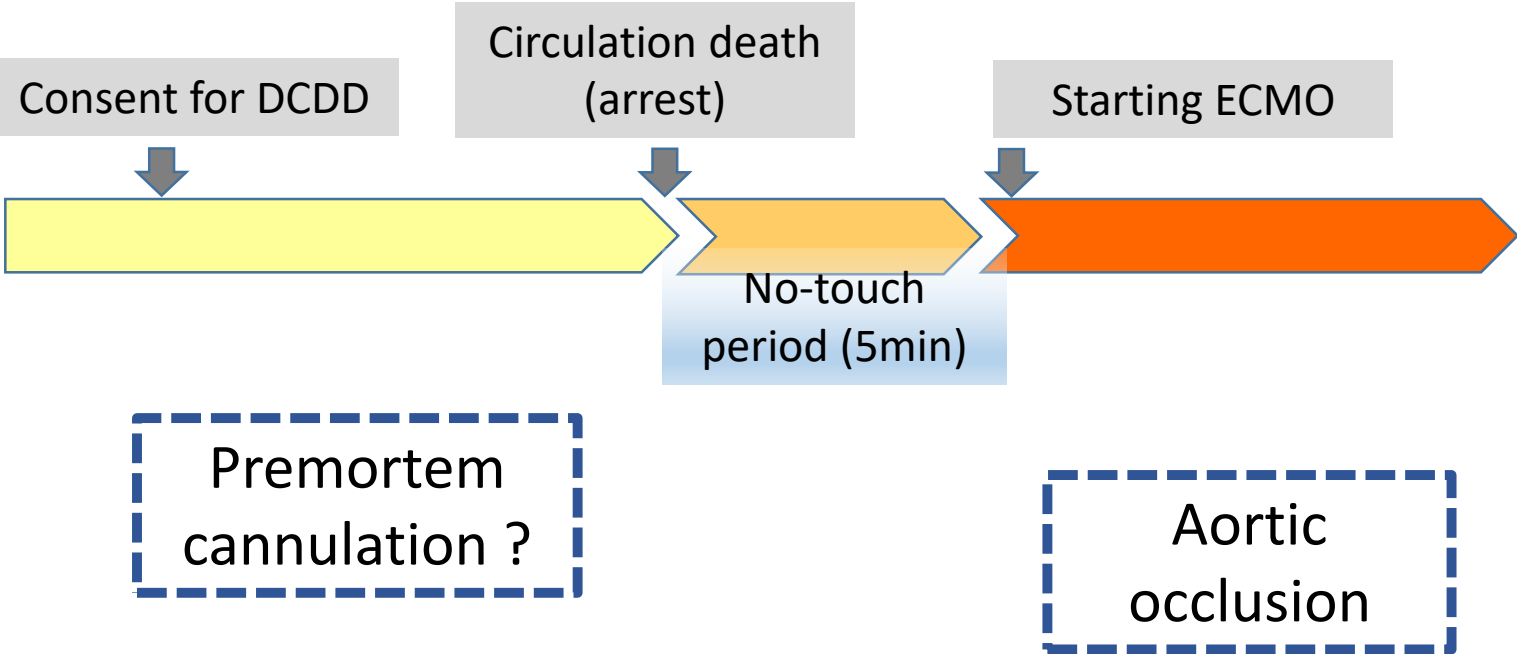
- To reduce COI in organ donation and transplantation
 - separation of institution for procurement and transplantation
 - separation of donor care team and transplantation team
- But ...
 - Hospital based organ procurement organization (HOPO)
 - Personal mission vs. Protect donor

Other Considerations

- Considering the cost-effectiveness of OP-ECMO
- Conflict (or competition) with the use of therapeutic ECMO
- The risks of a loss of public confidence
 - the risk to undermine public trust in organ donation and transplantation.

Ethical Issue in OP-ECMO in circulation death

OP-ECMO in Controlled Donation After Circulatory Determination of Death(cDCDD)



OP-ECMO in cDCDD – premortem cannulation

- Modification of patients' end-of-life care
- Unnecessary and unjustified modification of the dying process, if the patient is not a candidate for organ donation.
- Risk of inducing pain and of damaging bodily integrity
- The American Thoracic Society .. ethically acceptable if “it contributes to good transplant outcomes” and if informed consent is obtained ..

OP-ECMO in cDCDD – Aortic occlusion

- The dead donor rule (DDR)
- After death declaration, if the resumption of circulation by ECMO may revive the patient....?
 - using an aortic occlusion balloon or an aortic clamp
 - Is it fine? Malfunction or misplacement of occlusion balloon
- It requires a specific informed consent and transparency!!

Conclusions

Slippery Slope

~~Between, Doesn't matter~~

Gift for life(생명 나눔)



- OP-ECMO is allowed depending on the situation, and **acceptability of OP-ECMO in society will change** as technical development and changes in consensus.
- We should **avoid the logic of making benefit for the recipient** because there is **no more benefit to the donor**.
- We should **respect the donor more** because donor can't make a benefit and his/her sacrifice benefits third parties.
- Health professionals should strive to **make guideline for ECMO in donor**

For increasing procurement

- Revising law for donation in circulation death
- Asking organ donation in advance directives (사전연명의료의향서)
process
- Education ...
 - improving the awareness of donation
 - trying to reduce the gap between awareness of donation and actual donation

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