The challenges of Utilizing Registry Data For Regulatory Use - Academic View

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On behalf of JPIC database working group
Utilization of Registry Data for Introduction of Pediatric Medical Devices

- Registry data
- Academia

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- Data for regulatory use
- 1. Data for Approval
- 2. Post Marketing Surveillance (PMS)
An experience with PMS using registry data: TAVI registry

Development of New database

TAVI Registry

Existing surgical database ≠ GPSP-compliant (Good Post-marketing Study Practice)

NCD National Clinical Database

JCVSD

PMDA: Pharmaceuticals and Medical Device Agency
Features of Pediatric Medical Device in Japan

- **Small market** due to the rarity of the diseases
- Requires **variable kinds and sizes** of devices
- Difficult to perform clinical trials due to small number of patients and too many institutions

Cost reduction of PMS is crucial
Cost reduction of PMS using JPIC-Registry

JPIC: Japanese society of Pediatric Interventional Cardiology

Development of universal platform for PMS on pediatric medical devices

Needs to be compliant with GPSP

(Good Post-marketing Study Practice)
JPIC registry (2013-)

Operated by National clinical database (NCD)

- Pediatric interventional cardiac catheter procedures from ~90 institutions
- 4000 cases/year (almost all pediatric cases in Japan)
- 140 variables/case
- Meticulous collection of complications
JPIC-Registry

- Ablation-EDC/individual data
- Ablation-QN/institutional data
- Intervention-EDC/individual data
- Intervention-QN/institutional data

Year: 2014-2017

- 2014: 1085
- 2015: 1085 + 56 = 1141
- 2016: 1141 + 166 = 1307
- 2017: 1307 + 493 = 1790

Values: 101, 56, 383, 4311
Aims of JPIC-Registry

- Benchmarking function
- Explanation to patients regarding complication rate
- Operator / Institutional certification for new devices
- Approval for new devices
- Pre- and Post- marketing surveillance
- Multi-institutional study

Regulatory Use

Academic Use
Contractual relationship of postmarketing database survey

Data input (almost voluntary) -> DB holder -> Indirect contract with healthcare facility

Healthcare facility ↔ Pharmaceutical company

Work of data collection by healthcare facilities can become a hidden cost!
Challenge 1: survey items

- **Too many** items increase the cost (input/error check/query)
- **Too different** from academic survey items
- Includes information on **medical device failure**
- Needs to be fit into database format
- **Longer follow-up** (until discharge/1m⇒3y)

Survey items need to be minimized by cooperation among PMDA, industry and academia!
Challenge 2: SOP (Standard Operating Procedures)

SOPs required according to GPSP

- Establishment/management of registry
- Data cleaning
- Coding
- Security
- Data backup and recovery
- Quality control of healthcare data from information sources
- Data management
- Quality assurance
- Storage of records
- Education and training

These need to be prepared with the aid of CRO (⇒initial cost).
Challenge 3: Progress management

- Period between procedure and data entry is 0d-1y for academic use.
- Data needs to be entered in timely manner (in several wks) for PMS.
- Finding “time 0” is important to send reminders to healthcare facilities.

Idea is to use shipping records to trigger reminders for data entry.
Challenge 4: Patient Consent

- Opt-out
  - Academic registry
  - Non-academic use = Opt-in?
  - Registry PMS
  - Legal framework for registry PMS may be needed

- Opt-in?
  - Normal PMS

unnecessary
An example of pediatric medical device used as off-label: static BAS

Balloon atrial septostomy

Rashkind BAS: On-label use

589 cases/3yrs

static BAS: Off-label use

294 cases/3yrs
static BAS survey for device approval

- Specify clinical situation (Why)
  e.g. cases in which Rashkind BAS was ineffective

- Identify concomitantly used devices (How)
  e.g. Double balloon/stenting/Brockenbrough etc

- Confirm safety
  i.e. difference in complication rate between off-label v.s. on-label use

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Summary

It’s a matter of how to balance the cost and the benefit!