



National Transplants Registry in Poland: Early and Long-term Results of Organ Transplantations in the Years 1998 to 2014

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ABSTRACT

Background. In 2006, the National Transplants Registry, administered by the national transplant organization, was introduced in Poland for monitoring the results of organ transplantations. Statistical analysis is published yearly in *Poltransplant Bulletin* and publicly available on the website and reported to European institutions. The Transplants Registry cooperates with another registers functioning on-line, based on the web-net tool www.rejestr.net. We present the formal analysis of data collected for the years 1998 to 2014.

Methods. Analysis covered the total number of organ transplantations in every transplant center; outcomes after 3 months and 1, 3, and 5 years; and if data were available after 10, 15, and 20 years from transplantation. Results presented are real, not extrapolated.

Results. Some examples are as follows. The total number of deceased kidney transplantations was 15,009; 1-year recipient survival was 95%, graft survival was 88% (data completeness of 81%), 5-year recipient survival was 87%, and graft survival was 74% (data completeness of 82%). The total number of deceased liver transplantations was 3143; 1-year recipient survival was 84%, graft survival was 81% (data completeness of 99%), 5-year recipient survival was 73%, and graft survival was 89% (data completeness of 99%).

Conclusions. The National Transplant Registry is an important tool for quality and safety systems in the transplantation field on the national level. Nowadays, the Registry efficiently and effectively fulfills its tasks related to collecting records of all performed transplantations. Monitoring function for graft and recipient survival is also satisfied. Collected numbers are an important and unique source of information to be used by transplant institutions and referred to in the literature.

IN 2006, for the sake of proper monitoring and evaluation of transplantations performed in Poland, a National Transplants Registry [1] was created. The Transplants Registry has 2 main functions: (1) gathering information on every organ transplantation performed within the country (registration function) and (2) monitoring of quality of performed transplantations by collecting data on graft function and recipient's post-transplant survival in the short- and long-term follow-up (on the day of

transplantation, 3 and 12 months after transplantation, and every following year until graft loss or recipient death) (follow-up function).

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According to current legal regulations the entity responsible for administering of Transplants Registry is the Polish Transplant Coordinating Center Poltransplant (national competent authority in donation and transplantation), which cares about personal data safety, prevents data loss or destruction, and performs statistical analysis of the database at least once a year, sharing the results with Ministry of Health and National Transplant Council. The same data are published yearly in *Poltransplant Bulletin* and are available on the Poltransplant website www.poltransplant.org.pl [2]. Poltransplant is also responsible for reporting Polish activity to European institutions; the data are published in *Newsletter Transplant* [3]. The transplant recipient's record is created by the transplant center, which enters personal data of the patient and details related to transplantation itself. The Polish Transplants Registry cooperates with other registers functioning on-line, based on the web-net tool [4,5]. In this paper, we present the formal analysis of data collected in the National Registry of Organ Transplantations for the years 1998 to 2014.

METHODS

Summary tables were created for the number of organ transplantations performed in the years 1998 to 2014; early and long-term transplant outcomes measured by graft and recipient survival (number and percent of living recipient and functioning grafts are given); every organ transplantation case outcome after 3 months and 1, 3, and 5 years and if data were available after 10, 15, and 20 years from transplantation are presented; results presented are real, not extrapolated, that is, numbers were calculated only for these events for which the observation was complete, given that the term of follow-up has passed and the information on recipient's and graft survivals were available; summary was done as for March 12, 2015.

RESULTS

Results of the study are shown in [Tables 1–8](#).

Table 1. Number of Organ Transplantations Performed in Poland 1998 to 2014

| Organ | No. of Transplantations From 1.I.1998 r. Until 31.XII.2014 r. |
|--|---|
| Kidneys collected from deceased donors | 15,009 |
| Kidneys collected from living donors | 548 |
| Livers collected from deceased donors | 3143 |
| Livers collected from living donors* | 264 |
| Hearts | 1618 |
| Lungs [†] | 117 |
| Kidneys with pancreases [‡] | 381 |

*Since 1999.

[†]Since 2004.

[‡]Since 04.02.1988.

Table 2. Kidney Transplant Outcomes (Deceased Donors): All Transplant Centers

| Time After Tx | No. of Transplants in Observation* | No. and % of Assessed Transplants (Data Completeness) | Recipient Survival (No. and %) | Graft Survival (No. and %) |
|---------------|------------------------------------|---|--------------------------------|----------------------------|
| 3 Months | 14,954 | 12,048 | 11,703 | 11,178 |
| | | 81% | 97% | 93% |
| 12 Months | 14,156 | 11,456 | 10,831 | 10,113 |
| | | 81% | 95% | 88% |
| 3 Years | 11,962 | 9634 | 8812 | 7874 |
| | | 81% | 91% | 82% |
| 5 Years | 10,005 | 8215 | 7191 | 6115 |
| | | 82% | 87% | 74% |
| 10 Years | 5905 | 4669 | 3567 | 2730 |
| | | 79% | 76% | 58% |
| 15 Years | 1249 | 1236 | 816 | 561 |
| | | 99% | 66% | 45% |

*Since 1998.

CONCLUSIONS

The National Transplant Registry and other obligatory registers related to transplant medicine in Poland (national waiting list, living donor register, register of serious adverse events, and reactions) are an important part of quality and safety systems in the transplantation field on the national level [6–8]. Regulation of a law system of collecting data in the Transplant Registry (according to Polish Transplant Act [1], the responsibility for monitoring of recipient health condition and recipient survival lies with transplant centers, and a national transplant organization is responsible for data storage and processing) has been supported with a tailored net tool. It created formal basis for proper functioning of the registry.

The strength of the above report is based on its reliability and completeness; nowadays, the Transplant Registry efficiently and effectively fulfills its tasks related to collecting records of all performed transplantations. Monitoring function for graft and recipient survival is also satisfied; data completeness after 1 year (early outcomes) ranges from

Table 3. Kidney Transplant Outcomes (Living Donors): All Transplant Centers

| Time After Tx | No. of Transplants in Observation* | No. and % of Assessed Transplants (Data Completeness) | Recipient Survival (No. and %) | Graft Survival (No. and %) |
|---------------|------------------------------------|---|--------------------------------|----------------------------|
| 3 Months | 545 | 478 | 477 | 463 |
| | | 87% | 99% | 97% |
| 12 Months | 500 | 435 | 432 | 415 |
| | | 91% | 99% | 95% |
| 3 Years | 396 | 336 | 330 | 314 |
| | | 84% | 98% | 93% |
| 5 Years | 303 | 267 | 257 | 237 |
| | | 88% | 96% | 89% |
| 10 Years | 189 | 151 | 138 | 119 |
| | | 80% | 91% | 79% |

*Since 1998.

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