Pregnancy Outcomes with Exposure to the Mycophenolic Acid Products (MPA)

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Abstract

Post-transplant patients are generally subjected to life-long immunosuppressive therapy in order to prevent rejection. The purpose of this study was to review pregnancy outcomes in female solid-organ transplant recipients maintained on MPA during gestation. Data were gathered from the National Transplantation Pregnancy Registry (NTPR). There were 97 pregnancies (98 outcomes; 1 twin) reported by 68 recipients. Pregnancy outcomes included 48 (49%) spontaneous abortions and 2 (2%) stillbirths. Of the 48 livebirths, there were 11 newborns (22.9%) with structural birth defects. Although many birth anomalies were described, consistent findings of microtia (n=6) and facial deformities (n=4) were observed. Compared to the 4-5% incidence of birth defects observed in transplant recipients not maintained on MPA, this study reveals an increased incidence of birth defects and suggests microtia and facial deformities as a pattern of malformation. The NTPR continues to monitor these recipients.

Purpose

The purpose of this study was to review pregnancy outcomes in female solid-organ transplant recipients maintained on MPA during gestation who reported to the National Transplantation Pregnancy Registry (NTPR).

Methods

Data were collected via questionnaires, phone interviews, and medical records.

Maternal Dosing During Pregnancy

Mycophenolate mofetil (CellCept®); n=95	250 mg daily to 1500 mg bid
Enteric-coated mycophenolate sodium (Myfortic®); n=2	180 mg bid to 720 mg bid

In October 2007, the FDA pregnancy category of MPA products was changed from category C to D, based on registry and post-marketing data.

FDA Pregnancy Categories

A	Controlled studies show no risk; these drugs are the safest.
B	Animal studies show no risk to the fetus and no controlled human studies have been conducted, or animal studies show a risk to fetus but well-controlled human studies do not.
C	No adequate animal or human studies have been conducted, or adverse fetal effects have been shown in animals but no human data available.
D	Evidence of human fetal risk exists, but benefits may outweigh risks in certain situations (e.g., life-threatening disorders).
X	Proven fetal risks outweigh any possible benefit.

Pregnancy Outcomes*

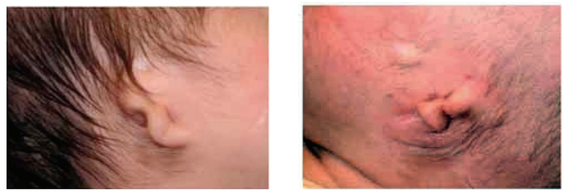
Livebirths	48 (49%)
Spontaneous abortions	48 (49%)
Stillbirths	2 (2%)
Total	98

*Includes twins

Structural Birth Defects

Microtia	6
Facial Deformities	4
Cardiovascular Malformations	5
Gastrointestinal Malformations	2
Limb Abnormalities	2

Of 48 livebirths, 11 were described with birth defects (22.9%). Four infants had multiple anomalies and died.



Bilateral microtia and external ear canal atresia

Jackson P, et al. Intrauterine exposure to mycophenolate mofetil and multiple congenital anomalies in a newborn: possible teratogenic effect. Am J of Med Genet Part A 2009;149A(6):1231.

Conclusions

- Reports to NTPR to date continue to reveal an increased incidence of birth defects in transplant recipients maintained on MPA products during gestation compared to those not maintained on these agents.
- Structural birth defects consisting of microtia (ear deformity) and facial defects suggest a pattern of malformations.
- Evaluation of the higher incidence of non-viable outcomes requires further study in this cohort.
- Centers are encouraged to report all pregnancy exposures in transplant recipients to the NTPR.

To contact the NTPR and report additional pregnancies:

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1025 Walnut Street, 605 College Building,
Philadelphia, PA 19107, USA
Phone: Toll-free 877-955-6877; 215-955-4820
Fax 215-923-1420
Email: NTPR.Registry@jefferson.edu
Website: http://www.jefferson.edu/ntpr

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