CADTH REIMBURSEMENT REVIEW

Patient/Clinician/Industry Input

everolimus

non-sponsored

Indication: Subependymal giant cell astrocytoma (SEGA) associated with tuberous sclerosis complex (TSC).

Feb 12, 2024

This document compiles the input submitted by patient groups and clinician groups for the file under review. The information is used by CADTH in all phases of the review, including the appraisal of evidence and interpretation of the results. The input submitted for each review is also included in the briefing materials that are sent to expert committee members prior to committee meetings.

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CADTH

Patient Input Template for CADTH Reimbursement Reviews

Name of Drug: Everlimus
Indication: Subependymal giant cell astrocytoma (SEGA)
Name of Patient Group: Tuberous Sclerosis Canada Sclérose Tubéreuse
Author of Submission: Cathy Evanochko

1. About Your Patient Group

Tuberous Sclerosis Canada Sclérose Tubéreuse (TSCST) is a voluntary, non-profit, charitable organization that was established in 1990 to provide awareness and support for individuals living with tuberous sclerosis complex (TSC) and their families. https://www.tscanada.ca/

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2. Information Gathering

Information regarding SEGA, kidney AMLs and seizures was gathered from Canadian individuals and caregivers through a member survey done in September 2023. 11 responses were received. The following questions were asked:

- Current age of TSC individual. Age of diagnosis.
- What manifestations of TSC do you/your child currently have?
- Age of onset of seizures if applicable. What treatments have been tried for seizures? How many medications have been tried?
- What are the impacts on quality of life that living with TSC has?
- If you could choose any positive treatment outcome for the TSC individual, what would it be?

3. Disease Experience

TSC is a multi-system disease that can affect every major organ. For their entire lives, individuals living with TSC worry about what is going to happen next. Tumours appear at different stages of life. Early on, children can develop SEGAs in their brains. Some children are born with a SEGA, others develop them later, typically through their childhood, teens and early 20s.

These tumors are non-cancerous, but they still cause problems. If a SEGA grows large enough, it can block the flow of cerebrospinal fluid (CSF) in the ventricles in the brain, causing hydrocephalus. Pressure will build up within the brain resulting in symptoms that may include vomiting, nausea, headache and changes in appetite, behavior, and mood. When this is an infant or someone who is non-verbal, it is very difficult to attribute these symptoms to a growing SEGA. Individuals must be monitored using MRI a minimum of every six months to a year.

Although SEGA is typically slow growing, it can reach emergency status in-between MRIs and doctor visits. Having a SEGA is like living with a time bomb… you don't know when it will cause an emergency, but you know it likely will. This is a hugely stressful way to live. Parents knowing their child has a SEGA live with this fear every day.

SEGA is one of the less common manifestations of TSC, occurring in approximately 20% of individuals (TSC Alliance, 2024). Among the 11 responses to our survey, 4 had lived experience with SEGAs in their children. All responders commented on the stress of not knowing when or how much a SEGA would grow, and what the outcomes would be.

"My 3-month-old daughter was diagnosed with TSC in utero as she had heart and brain tumors seen on an ultrasound done when I was 7 months pregnant with her." For 3 months, we were terrified, not knowing what problems these tumours would cause. Her heart tumor hasn't caused any problems other than a heart murmur, but we have to keep watching the brain tumor, which is a SEGA. She has had 2 MRIs of her brain so far, which shows the SEGA has gotten slightly bigger. She is scheduled to have another MRI when she is 6 months old."

"My son was hospitalized with a severe kidney bleed in May of 2016 at the age of 19 years old. While there, he had a routine MRI of his brain, which showed a huge SEGA. As he is non-verbal, we didn't notice the side-effects. We believe he was likely having severe headaches, nausea and lack of appetite due to the SEGA. He had a shunt inserted at that time, and we noticed an improvement in his mood and eating soon afterwards."

"My daughter has 2 SENS (subependymal nodules that can lead to SEGAs). She had a MRI almost every year since she was 7 months old. When she was 23 years old, one started to grow into a SEGA. It wasn't supposed to do this by her age we thought."

"When my brother was about 24 years old, he started having severe headaches. The doctors discovered a large apricot-sized SEGA on his brain, which was surgically removed."

4. Experiences With Currently Available Treatments

"My son had to have emergency surgery to insert a shunt in his brain to reduce the pressure caused by a SEGA. This on top of kidney surgery to treat a kidney bleed at the same time."

"We were told that all we could do is monitor the growth of my daughter's SEGA through annual MRIs and for us to watch for symptoms of hydrocephalus. If we see any symptoms, to take her to emergency. Very stressful!"

"There have been no treatments, only brain surgery."

"Every time my brother has to have an MRI, he has to be sedated. Every year."

5. Improved Outcomeswhat a patie

"Giving our child medication instead of brain surgery would be waaay better! I can't bear the thought of her having to have her brain operated on."

"The fear. The fear every time we go to hear the results of the latest MRI. The fear we will be told the SEGA has grown and surgery will be required. Maybe we would not be so fearful if there was a treatment available."

"I know there is a treatment for SEGA available in the USA, the UK and Europe. Why isn't it covered here?"

"If we can get medication that would control the growth of SEGAs, we would take it in a heartbeat! Then maybe we wouldn't have to take a day off work, give our son sedation and have an MRI every few months."

6. Experience With Drug Under Review

"We don't have any experience with Everolimus, but my daughter's neurologist told us about it and said it might be a way to treat her SEGA without surgery if necessary."

"When we heard about everolimus, we asked if we could get it for our son's kidney tumours to avoid future bleeds. His nephrologist recommended us for special access, and he was approved since he has had 3 kidney surgeries so far. He has been on it for 5 years now. His kidney tumors have shrunk, no more bleeds, and the SEGA we were watching is down to a nodule. It is a miracle!!"

"No experience, it isn't available here."

"I would put my brother on it immediately if we could get it. We applied, but BC said no."

7. Companion Diagnostic Test

Only constant monitoring through MRI is available. Genetic testing does not indicate or predict who will get each of the manifestations of TSC.

8. Anything Else?

There are "gold standard diagnostic and treatment criteria developed by TSC experts from around the world. Everolimus is the first line of treatment recommended for all the tumors caused by TSC. See: "Diagnostic Criteria, Surveillance and Management Recommendations". These guidelines need to be followed for diagnosis and treatment of all Canadians living with TSC.

https://www.tscalliance.org/wp-content/uploads/2022/09/2021-Updated-TSC-DiagnosticCriteria-Surveillance-and-Management-Recommendations.pdf

Appendix: Patient Group Conflict of Interest Declaration

To maintain the objectivity and credibility of the CADTH reimbursement review process, all participants in the drug review processes must disclose any real, potential, or perceived conflicts of interest. This Patient Group Conflict of Interest Declaration is required for participation. Declarations made do not negate or preclude the use of the patient group input. CADTH may contact your group with further questions, as needed.

1. Did you receive help from outside your patient group to complete this submission? If yes, please detail the help and who provided it.

   No

2. Did you receive help from outside your patient group to collect or analyze data used in this submission? If yes, please detail the help and who provided it.

   No

3. List any companies or organizations that have provided your group with financial payment over the past 2 years AND who may have direct or indirect interest in the drug under review. None

Table 1: Financial Disclosures

Check Appropriate Dollar Range With an X. Add additional rows if necessary.

Company	$0 to 5,000	$5,001 to 10,000	$10,001 to 50,000	In Excess of $50,000

<Enter Name Here>				
n/a				

I hereby certify that I have the authority to disclose all relevant information with respect to any matter involving this patient group with a company, organization, or entity that may place this patient group in a real, potential, or perceived conflict of interest situation.

Name: Cathy Evanochko
Position: Board Chair
Patient Group: Tuberous Sclerosis Canada Sclérose Tubéreuse
Date: February 27, 2024