Case Report

Treatment of Primary Congenital Lymphedema Via the Godoy Method: A Case Report of 17-year Follow-up

Ana Carolina Pereira de Godoy[1], Jose Maria Pereira de Godoy[2*], Rogerio Rodrigo Ramos[3], Maria de Fatima Guerreiro Godoy[3]

1. Hospital da Criança e Maternidade, School of Medicine Sao Jose do Rio Preto and Member Research Group at Clínica Godoy, Brazil.
2. School of Universidade Brasil, Fernandopolis, Brazil.
3. School of Medicine, São José do Rio Preto and Member Research Group at Clínica Godoy, São Jose do Rio Preto, Brazil.

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ABSTRACT

The present research aimed to report the treatment of primary congenital lymphedema using the Godoy method with a 17-year follow-up period. A 2-month-old male patient with bilateral primary congenital lymphedema of the lower limbs was sent to the Clinica Godoy-Brazil for specialized treatment. The physical examination revealed bilateral lower limb edema affecting the feet and middle third of the legs. The patient was made to use hand-crafted stockings made of grosgrain fabric. When the child reached 10 years of age, mechanical lymphatic therapy was conducted. A considerable reduction in the edema was achieved but with periods of improvement and worsening. In the last 4 years of the 17 years of treatment, the limbs have remained within or near the range of normality. The present findings demonstrate that the Godoy method is effective in controlling edema in cases of primary congenital lymphedema. When the family has difficulties, others who take care of the child should get involved to ensure the treatment of this type of lymphedema.

** Corresponding Author:*
Jose Maria Pereira de Godoy, MD.
Address: *School of Universidade Brasil, Fernandopolis, Brazil.*
E-mail: *godoyjmp@gmail.com*

1. Introduction

Lymphedema is a clinical condition that leads to a specific type of edema with either a primary (congenital) or secondary (acquired) origin (1). Few epidemiological studies have been conducted on this condition. The prevalence of primary lymphedema in the USA is reported to be 1.15 per 100 000 children and this condition is associated with the emergence of early edema at menarche (2, 3).

A population-based study reports a frequency of chronic edema affecting 1.33 out of every 1000 individuals, which increases to 5.4 out of every 1000 individuals in the population in the age range of 65 years and older (4, 5). Congenital lymphedema is classified based on age. The condition is denominated primary congenital lymphedema when emerging before 2 years of age, early primary lymphedema when emerging between 2 and 35 years of age, and late primary lymphedema when emerging after 35 years of age (2-5).

There is no specific treatment for lymphedema in children, however, the treatments designed for adults have been adapted for this population. In recent years, Godoy & Godoy have developed a novel concept of stimulating the lymphatic system denominated cervical lymphatic therapy or cervical stimulation. When used as a monotherapy for the treatment of lymphedema in children, this method has been demonstrated to be effective, leading to the normalization or near normalization of the affected limb (5-7).

Custom-made stockings of grosgrain fabric adapted to patients have proven to be effective in normalizing primary lymphedema of the lower limbs (8). The adaptation of these stockings and correct placement enables achieving such results. These stockings produce both working and resting pressure and the material has been used to treat primary and secondary lymphedema in children with the same results (9).

The Godoy & Godoy method for the treatment of lymphedema in children involves the adaptation to each case considering the intellectual capacity of the parents, socioeconomic factors, and aspects related to the possibility of bringing the child to the clinic.

The current study aims to report the treatment of primary congenital lymphedema using the Godoy method with a 17-year follow-up period.

2. Case Report

A 2-month-old male patient with bilateral primary congenital lymphedema of the lower limbs was sent to the Clinica Godoy-Brazil for specialized treatment. The physical examination revealed bilateral lower limb edema affecting the feet and middle third of the legs. Following the physical examination, a perimetric evaluation of the feet and legs was conducted, although, for this study, only the measurements of the feet at two points (3 and 6 cm from the base of the big toe along the dorsum of the feet) were considered (Figures 1-3).

At the first moment of the treatment, the family training was tried to perform cervical lymphatic therapy, however, it was unsuccessful. Considering the technical difficulties of teaching the family how to perform cervical lymphatic therapy, the decision was made to use hand-crafted stockings made of grosgrain fabric (Figure 2). The difficulties with the family forced the therapy team to intervene in the child's activities by instructing his caregivers at the daycare center to keep the stockings on as long as possible. Monthly return visits to the clinic were scheduled for cervical lymphatic therapy. The family was responsible for periodically returning to the service for evaluating the child, using and adapting the grosgrain stockings, and making the necessary adjustments according to the reduction of edema, and manufacturing other stockings as the child continued to grow. Many difficulties occurred in maintaining the correct use of the containment mechanism by the family, but the team continued to accompany the child and maintain the guidelines, thus managing to keep the lymphedema stable.

When the child reached 10 years of age, it was decided to associate mechanical lymphatic therapy, using the RAGodoy device, which performs passive plantar flexion and extension. This was done because in that phase it was possible to use the device because of the size of the child's lower limbs. They adapted well to the device and associating this therapy was possible for mobilizing macromolecules.

A considerable reduction in the edema was achieved but with periods of improvement and worsening. In the last 4 years of the 17 years of treatment, the limbs have remained within or near the range of normality.

The case report was approved by the Research Ethics Committee of the School of Medicine Sao Jose do Rio Preto (#3.146.170). The family signed the term consent for using the images.

Figure 1. Child's initial evaluation at 2-month-old

3. Discussion

The present study described the results of 17 years of lymphatic therapy using the Godoy method for primary congenital lymphedema in a child whose family had considerable difficulty in caring for the patient. Given these difficulties, the staff at the child's day-care center instructed the family regarding the need to maintain the stockings on the child, preferably throughout the entire day. The monthly return visits to the clinic were a strategy to evaluate whether the stockings were being used correctly. When used correctly, stockings made of grosgrain fabric and adapted to the patient achieved good therapeutic results.8,9 In adults, these stockings, as a monotherapy, can lead to the normalization or near normalization of the edema.8 However, to achieve such results, there is a need for continual evaluations for the adjustment of the stockings to both the size of the edema and the size of the leg. Therefore, a qualified professional is needed to orientate patients and parents or caregivers.8

The first treatment option of the Godoy method is cervical lymphatic therapy if the parents are capable of being trained and executing the technique. This therapy alone enables the normalization or near normalization of the affected limb. Studies have demonstrated such results after 2 years of cervical therapy and better results can be achieved when this therapy is combined with the use of grosgrain stockings.6,7 However, we rarely combine these 2 methods because families tend not to perform cervical lymphatic therapy. Adding mechanical lymphatic drainage is another option for mobilizing macromolecules (10).

Figure 3. Associating mechanical lymphatic therapy via the ragodoy device

Figure 2. Child's adapted hand-crafted stockings made of grosgrain fabric

4. Conclusion

The present findings demonstrate that the Godoy Method is effective at controlling edema in cases of primary congenital lymphedema. When the family has difficulties, others who take care of the child should become involved to ensure the treatment of this type of lymphedema.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

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Authors' contributions

All authors equally contributed to preparing this article.

Conflicts of interest

The authors declared no conflict of interest.

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