GTN

Topical Glyceryl Trinitrate (GTN) Versus Conservative Treatment (CT) in Chronic Anal Fissure: Prospective and Randomized Study

Kwang-Real Lee, M.D., Kyung Ah Cho, M.D., Do Yeon Hwang, M.D. Kuhn Uk Kim, M.D., Weon Kap Park, M.D., Seo Gu Yoon, M.D. Hyun Shig Kim, M.D. and Jong Kyun Lee, M.D.

Department of Surgery, Song Do Colorectal Hospital, Seoul, Korea

Purpose: This study was designed to compare the effect of treatment using glyceryl trinitrate (GTN) ointment with that of conservative treatment (CT) on chronic anal fissure. **Methods:** As a preliminary study, maximal resting pressures of the anal canal were checked in 13 patients having chronic anal fissure before and 10 minutes after application of 0.2% GTN ointment. As the study groups, 59 patients having chronic anal fissure were randomly allocated to the GTN and the placebo groups. All the patients in both groups were given oral analgesics, sedatives, and bulk-forming agents. They had applied 0.2% GTN ointment or a placebo ointment three times a day to their perianal skin. Maximal resting pressures of the anal canal were checked at the beginning and at the endpoint of the treatment period which continued for 6 weeks. If there was complete healing of the fissure in the middle of the treatment, the treatment was stopped. Sixteen patients were lost during the study. **Results:** Among the rest, 22 and 21 patients were included in the GTN group and the placebo group, respectively. The maximal resting pressure decreased significantly in all groups (p < 0.05). The healing rates, the recurrence rates, and the operation rates were not significantly different between the GTN group and placebo group (p > 0.05). **Conclusion:** The effect of GTN on the symptomatic relief and results of treatment in patients having chronic anal fissure is not superior to that of conservative treatment. (**JKSCP 2000;16:360 – 364**)

Key Words: Anal fissure, Glyceryl trinitrate, Conservative treatment

가 glyceryl trinitrate (GTN) 가 가 **GTN** 가 1 가 가 가 3 366-144 : 100-453) (Tel: 02-2231-0900, Fax: 02-2237-5335) (E-mail: kreal@channeli.net) 32

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7:
                                                                     GTN
                                                                                                             361
       가
     GTN
                    가
    가
                                                                                                               Wil-
                                                            coxon signed rank test,
                                                            Mann-Whitney test,
  1998
                   1999
                                                                                chi-square test
                                                59
                                                                                        Fisher's exact test
                                가
                                                                                        0.05
                                                                                . p
                                                                    가
                                          가
                              2
                                                                                     59
                                                                                                     16
                                                                                  GTN
                                                                                            22 ,
                                                                                                            21
GTN
                           30
                                   29
                                                                                        10
                                                                                    (p > 0.05).
                                                                                                            13
                                                                 36
                                                                         34
  , 2% nitroglycerine (Furgurae, USA)
                                                 petro-
                                                                   6
                                                                                            33
                    0.2% GTN
latum
                                                                                                            (2 12
(placebo)
          petrolatum sorbitol
 . 가
                       가
                                                            GTN ,
GTN
                                                                 (p < 0.05)(Table 1).
                                                                                                    27.3%, GTN
                                                                  14.3%,
                                                                                      16.5%
                                                 mefe-
namic acid
                       diazepam
                                                                                                          (p < 0.05)
     psyllium
                                               3
                                                   500
                                                            (Table 1).
                                   2
                                                                                                  GTN
                                                                                                            63.6%,
mg
                                                                      61.9%
  2
                                                                                            (p > 0.05)(Table 2).
                  가
                                                                                            GTN
                                                                                                        3 (13.6%)
                                               가
                                            6
                                                               Table 1. Resting pressure before and after treatments
                      . GTN
                                                                                                    Pressure
                                                                                          Post-Tx.
                                                                                 Pre-Tx.
           13
                                       0.2% GTN
                                                                                                    decrease
                                                                                           (mmHg)
                                                                                                             value
                                                                                (mmHg)
                                                                                                      (%)
                         10
                                                가
                                                             Preliminary group
                                                                               82.2 \pm 10.6 \quad 59.2 \pm 7.0
                                                                                                     27.3*
                                                                                                            < 0.05
                          가
                                                             GTN group
                                                                               82.6 \pm 15.
                                                                                          69.6 \pm 9.8
                                                                                                      14.3
                                                                                                            < 0.05
                                                             Placebo group
                                                                               80.7 \pm 9.9
                                                                                          65.0 \pm 9.8
                                                                                                      16.5
                                                                                                            < 0.05
                                                    가
                                            1
                                                            Tx = treatment; GTN = glyceryl trinitrate.
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p < 0.05.

가

가가

Table 2. Clinical effects of GTN and

Table 2. Clinical effects of GTN and CT				Loder ¹ GTN				
	Fissure healing (%)	Recurrence (%)	Operation (%)	$Gorfine^2$		가	GTN	
GTN group Placebo group		5/14 (35.7) 6/13 (46.2)		Gornne	3,4,19		GIN	
GTN = glyceryl trinitrate.			GTN					
					20	27.3%가 50%가		,
				2	24 43%			
Eisenhammer ⁶	가			GTN				가
71	40.40		- 7		가 가	10,20,21		GTN
가	1960		Duthie ⁷			64%	,	
					47 85%			
가가		가		가		,		

(spasm) 가 가 (hypertonia) 가 14.3% 가 20 50% 가

nitroglycerine tachyphylaxis .10,12 22 가 가 가 가 가 2 30% GTN 13-15 . Fraser¹⁶가

가 2 가 50 가

.16

GTN 가 GTN (reversible sphincterotomy) (chemical 가 sphincterotomy) 가 glyceryl trinitrate bo-.1,17 1992 tulinum toxin GTN Chakder 18フト Rattan 3 14% 20%

58%

GTN 7: GTN **GTN GTN** 가 **GTN GTN** GTN 가 가 **GTN** 가 8 가 . GTN 4 35.7% GTN 12 29% 4,23,24 가 가 GTN GTN 65% **GTN** 가 GTN GTN 가 가 가 **REFERENCES** GTN 가 가 1. Loder P, Kamm M, Nicholls R, Phillips R. Reversible 가 chemical sphincterotomy' by local application of glyceryl trinitrate. Br J Surg 1994;81:1386-89. 가 2. Gorfine SR. Treatment of benign anal disease with topical nitroglycerine. Dis Colon Rectum 1995;38:453-7. 3. Watson S, Kamm M, Nicholls R, Phillips R. Topical gly-GTN ceryl trinitrate in the treatment of chronic anal fissure. Br J Surg 1996;83:771-5. 4. Lund JN, Scholefield JH. A randomized, prospective, 가 가 double-blind, placebo-controlled trial of glyceryl trinitrate ointment in treatment of anal fissure. Lancet 1997;349: 26 11-4. 5. 1996;12:495-502. 6. Eisenhammer S. The surgical correction of chronic anal (sphincteric) contracture. S Afr Med J 1951;25:486-9. 7. Duthie HL, Bennett RC. Anal sphincter pressure in fissure in ano. Surg Gynecol & Obstet 1964;119:19-21. 8. Arabi Y, Alexander-Williams J, Keighley MR. Anal pre-가 ssures in hemorrhoids and anal fissure. Am J Surg 1977; 134:608-10. 가 9 . Hancock BD. The internal sphincter and anal fissure. Br J Surg 1977;92:92-5. 가 가 GTN 10. Chowcat NL, Araujo JG, Boulos PB. Internal sphincterotomy for chronic anal fissure: long term effects on anal GTN 가 pressure. Br J Surg 1986;75:915-6.

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