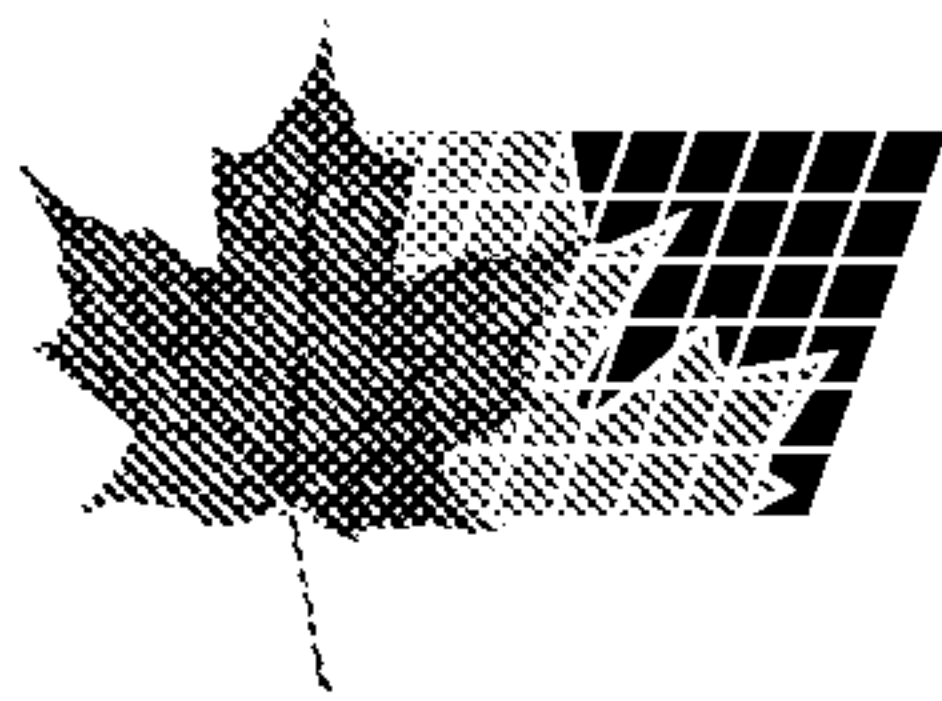




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(54) **METHODE DE RETABLISSEMENT DE LA TOLERANCE AU  
LACTOSE CHEZ LES PERSONNES AYANT UNE  
INTOLERANCE AU LACTOSE**

(54) **METHOD OF RESTORATION OF LACTOSE TOLERANCE IN  
HUMANS WITH THE MEDICAL DISORDER OF LACTOSE  
INTOLERANCE**

(57) Lactose intolerance in humans is due to intestinal lactase deficiency. Lactase is a Sulfur-containing enzyme. A study was undertaken to determine whether lactose tolerance could be restored by Sulfur therapy in patients with lactose intolerance. 17 patients with severe lactose intolerance for an average of 13 years (range 1 to 43 years) were treated with Sublimed Sulfur 200 mg orally twice daily after meals until lactose tolerance was restored. Sublimed Sulfur was then discontinued. Lactose tolerance was restored after 3 to 5 weeks of treatment with Sublimed Sulfur; the patients subsequently remained symptom-free for diarrhea, abdominal pain and bloating for an average of 26 weeks (range 18 to 62 weeks) on unrestricted intake of milk and milk products. The use of Sublimed Sulfur in the treatment of lactose intolerance resulted in restoration of lactose tolerance in humans.





### **Abstract**

**Lactose intolerance in humans is due to intestinal lactase deficiency. Lactase is a Sulfur-containing enzyme. A study was undertaken to determine whether lactose tolerance could be restored by Sulfur therapy in patients with lactose intolerance. 17 patients with severe lactose intolerance for an average of 13 years (range 1 to 43 years) were treated with Sublimed Sulfur 200 mg orally twice daily after meals until lactose tolerance was restored. Sublimed Sulfur was then discontinued. Lactose tolerance was restored after 3 to 5 weeks of treatment with Sublimed Sulfur; the patients subsequently remained symptom-free for diarrhea, abdominal pain and bloating for an average of 26 weeks (range 18 to 62 weeks) on unrestricted intake of milk and milk products. The use of Sublimed Sulfur in the treatment of lactose intolerance resulted in restoration of lactose tolerance in humans.**

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## DESCRIPTION

**Background** Lactose intolerance, which is due to intestinal lactase deficiency, is worldwide in distribution, affecting 50 percent of Orientals, 90 percent of Africans and 30 percent of Caucasians. Lactose intolerance, which varies in severity from mild to very severe, increases in incidence with increasing age. Lactase is a Sulfur-containing enzyme. Sulfur, mixed with molasses, has been used as a laxative.

**Methods** A 45 year old man with a confirmed plasma homocysteine level of 77  $\mu\text{mol/L}$  had lactose intolerance for 3 years; butter, cheese, cream, milk, ice cream, yogurt and foods containing milk products precipitated abdominal cramps, abdominal distension, bloating and flatulence lasting 60 to 90 minutes, followed by diarrhea within 1 hour. He occasionally obtained partial relief and sometimes complete relief from the abdominal symptoms by taking 5 tablets of extra strength Beta-D-galactosidase everyday. With his consent, he was conscripted as the initial subject of a study investigating the effect of Sublimed Sulfur on plasma homocysteine levels. His plasma homocysteine decreased by 89.4 percent as a result of therapy with Sublimed Sulfur 300 mg orally bid pc for 45 days. In addition, lactose tolerance was restored to this man by Sublimed Sulfur therapy and he no longer suffered from abdominal cramps, abdominal distension, bloating, flatulence and diarrhea and he remained symptom-free after discontinuation of Sublimed Sulfur. He subsequently developed lactose intolerance 57 weeks after discontinuation of the initial course of Sublimed Sulfur and was placed on another course of Sublimed Sulfur 200 mg orally bid pc for 6 weeks. Lactose tolerance was again restored to him after completing 2 weeks of the second course of treatment with Sublimed Sulfur.

A more extensive study was undertaken. 18 patients, 7 females and 11 males were recruited because of lactose intolerance for over 1 year and symptoms of diarrhea, abdominal pain, distension, bloating and flatulence within 15 minutes to 2 hours after intake of milk and milk products. Following confirmation of lactose intolerance by a lactose free diet for 1 week, subjects were placed simultaneously on a lactose free diet and Sublimed Sulfur 200 mg., 1 capsule orally pc bid for 15 days, after which they



initiated unrestricted oral intake of milk and milk products and continued Sublimed Sulfur 200 mg, 1 capsule orally pc bid for a further 30 days. Patients who did not develop lactose tolerance during the third week of treatment were continued on a lactose free diet and Sublimed Sulfur until lactose tolerance was restored. Serum vitamin B12 and erythrocyte folic acid levels were measured prior to treatment with Sublimed Sulfur. A record was kept of the presence or absence of symptoms of lactose intolerance. Exclusion criteria for the study included diarrhea from causes other than milk and milk products. Beta-D-galactosidase was not taken by the patients during the course of the study.

**Results** 16 patients became lactose tolerant on a regular diet during the 3rd week of therapy with Sublimed Sulfur and one patient during the 5th week; 16 of the 18 patients became symptom-free for diarrhea, abdominal pain, distension, bloating and flatulence. Flatulence persisted in a vitamin B12 deficient patient ;he remained asymptomatic for diarrhea, abdominal pain, distension and bloating for 14 weeks after discontinuation of Sublimed Sulfur. One of the 18 patients improved, but withdrew from the study.(Table 1). 3 patients with vitamin B12 deficiency were treated with vitamin B12 as well as Sublimed Sulfur. Serum vitamin B12 levels decreased by 20 to 25 percent in 4 of the 18 patients after treatment with Sublimed Sulfur. There were no significant changes in vitamin B12 levels in the remaining 11 patients and there were no significant changes in erythrocyte folic acid levels in the 18 patients. There were no reports by the patients of side-effects to therapy with Sublimed Sulfur.

**Discussion** This study provides evidence that treatment with elemental Sulfur restores lactose tolerance in patients with lactose intolerance. The restoration of lactose tolerance is evidence that intestinal mucosal lactase production is restored, either by alteration of the metabolism of the Sulfur-containing essential amino acids, or by stimulation of the production of a Sulfur-containing precursor of lactase which is a Sulfur-containing enzyme. Further investigations are indicated in order to determine the biochemical mechanisms by which Sublimed Sulfur restores lactase production. The persistence of lactose tolerance after discontinuation of Sublimed Sulfur therapy suggests that Sublimed Sulfur is retained and utilized or re-utilized for the continuing synthesis of lactase.



**Conclusions** A regimen of treatment with Sublimed Sulfur restores lactose tolerance in patients with lactose intolerance. The lactose tolerance persists during treatment with Sublimed Sulfur and after discontinuation of Sublimed Sulfur therapy. Lactose tolerance is restored by Sublimed Sulfur therapy to patients who develop lactose intolerance after discontinuation of Sublimed Sulfur.



**CLAIM**

**I claim the use of sulfur for the treatment of the medical disorder of lactose intolerance in humans.**