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2,934,472

PROCESS FOR RELIEVING HUMAN GAS PAINS WITH METHYLPOLYSILOXANE

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This invention relates to a method for relieving pain due to gas trapped in the human digestive tract. This application is a continuation-in-part of copending application Serial No. 647,950, filed March 25, 1957, now abandoned.

Since the beginning of surgery there has been a persistent problem which has plagued the medical profession, namely the development of post-operative gas in the human digestive tract. This gas is trapped and causes severe pains which often interfere with the comfortable return of the human system to normality after an operation. This is especially true where the nature of the operation, its location in the body, and accompanying physical and emotional repercussions interfere with the digestive system of the patient. Consequently, post-operative gas pains are common after operations in the abdomen and vicinity, such as hernia, appendicitis, and Caesarean section. Furthermore, long after operations on the human intestines, for instance, patients develop adhesions which tend to so contort the intestine as to trap gas in the system. The gases formed are trapped and exert pressure on adjacent nerves.

The entrapment of gas in the digestive tract has been a medical problem even where there has been no operation. For instance, a patient displaying a splenic flexure syndrome will almost invariably be troubled by gas pains in the vicinity of the flexure. Patients who are asthmatics or are given to hyperventilation are apt to gulp air into the digestive system. In cases in which this gulped air is not released by a normal body function, the accumulation of the air will cause considerable discomfort. It is furthermore well known in the field of medicine that the entrapment and accumulation of gas in the system of a patient afflicted with a coronary thrombosis is often fatal.

Medical science prior to this invention has been relatively unsuccessful in finding a satisfactory solution. Such remedies as the insertion of a rectal tube to allow passage of accumulated gas, thereby relieving pressure in the intestine, and dosing with castor oil to remove everything, have been used, but certainly such remedies are comparatively violent and are usually fatal in the case of cardiac patients. Sedatives and antispasmodics have been employed. However, these remedies have been neither satisfactory nor successful. Applicant has now found that gas pains can be prevented and cured simply by the oral administration to the patient of a silicone composition.

Whereas it is known that silicones can be used to relieve bloat in cattle, there has been no indication that the use of these materials would be of any value in the treatment of pains caused by trapped gas in the digestive tract of humans. Applicant has found most unexpectedly that relief is obtained.

This invention relates to a method of medical treatment which consists of administering orally a composition comprising at least 50 milligrams of (1) a methyl-

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polysiloxane having a viscosity of at least 200 cs. at 25° C. and (2) from 2 to 15 parts per 100 parts of (1) of a finely-divided filler to a human patient whereby the accumulation of gas in the digestive tract of a human is prevented or pains caused thereby are relieved.

The siloxanes (1) employed herein are methylpolysiloxanes of at least 200 cs. viscosity at 25° C. Preferably these methylpolysiloxanes contain from 1.9 to 2.1 methyl radicals per silicon atom. They may be prepared by any of the conventional methods for preparing siloxanes. These methylpolysiloxanes (1) preferably have a viscosity between 250 and 1000 cs. at 25° C. A methylpolysiloxane with a viscosity less than 200 cs. at 25° C. is so poor in this application as to be ineffective. A methylpolysiloxane with a viscosity above 1000 cs. at 25° C. is operative, but handling becomes very difficult. However, siloxanes having viscosities ranging from 200 cs. at 25° C. up to non-flowing gums are operative.

The siloxane composition herein employed must contain from 2 to 15 parts of filler (2) per 100 parts of siloxane (1). This filler can be any finely-divided filler which is not toxic or otherwise injurious to the human body such as silica aerogel, fume silica or carbon black. Similar suitable fillers such as these are well known in the art.

If there are less than two parts of (2) per 100 parts of (1), the antifoaming properties are poor. If there are more than 15 parts of (2) per 100 parts of (1), it will be extremely difficult to accomplish uniform dispersal.

This siloxane composition can be administered in any feasible form such as a paste in a gelatin capsule, a suspension, or an emulsion. These can be prepared by any well-known means. Since the human body is basically an aqueous system, it is preferred that the siloxane composition be administered as an emulsion. Suitable emulsions can be prepared using any non-toxic emulsifying agent such as methylcellulose and those disclosed in the Currie and Hommel U.S. Patent No. 2,595,928, issued May 6, 1952. Where an emulsion is used, the maximum dispersible amount of filler (2) is reduced to 10 parts per 100 parts of (1) with a preferable range of weight proportions of from 4:100 to 7:100.

There can be present in the composition any further additives, such as flavors, colors, emulsifying agents, dispersing agents and preservatives, so long as the additives are non-toxic and otherwise non-injurious to the human body.

The dosage required is dependent on the patient, the cause of gas and the location of any trapped gas. Generally, a dose of less than 50 milligrams is ineffective. The preferred dose is from 100 milligrams to 2.5 grams. The critical minimum limit for preventing gas accumulation or relieving pains caused thereby is the presence at the point where gas accumulates or has accumulated and is causing pain of a sufficient amount of the siloxane composition to give relief in a reasonable period of time. Consequently, relief in the stomach can be obtained almost immediately with a small dose under ordinary circumstances whereas relief in the colon can require a larger dose in order that a sufficient amount of the siloxane composition reach the area of distress in a reasonably short length of time. Normally gas prevention is best accomplished by ingestion of the siloxane composition with food. There is no critical maximum dosage inherent in the siloxane composition.

The method of this invention can be used before or after gas pains develop and can be repeated as often as necessary.

The following examples are merely illustrative and are not intended to limit this invention which is properly set forth in the claims.

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The siloxane composition employed in these examples was in an emulsion of the following compositions:

Component	Parts by weight
1. Dimethylpolysiloxane (250-1,000 cs.).....	27.5-30.5
2. Silica Aerogel.....	1.0-1.5
3. Polyoxyethylene Monostearate.....	9-11
4. Glyceryl Monostearate.....	3.5-4.5
5. Sorbic Acid.....	0.05-0.10
6. Water.....	53.4-59

Example 1

A patient suffering from post-operative gas pains following an abdominal operation was given 5.7 cubic centimeters of the above emulsion (corresponding to approximately 1.7 grams of the siloxane composition of this invention). The 5.7 cc. were added to a glass of water and taken orally. Relief was obtained in fifteen minutes.

Example 2

A patient suffering from post-operative gas pains following an abdominal operation was given 7 cubic centimeters per day of the above emulsion corresponding to approximately 2.1 grams of the siloxane composition of this invention. Relief was obtained.

Example 3

Seven patients were treated with the emulsion of Example 1. Two were afflicted with coronary thrombosis accompanied by gas in the stomach. One was a previous coronary thrombosis patient who suffered periodically from hyperventilation accompanied by air in the digestive tract due to "gulping." Two patients suffered from abdominal adhesions which interfered with the passage of matter in the bowels and caused gas to collect in the digestive tract. One person suffered from recurrent ulcerative colitis. One person showed a splenic flexure

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syndrome whereby gas was trapped in the digestive tract. Each of the patients was given orally from 5 drops to 1 teaspoonful of the above composition immediately after diagnosis and subsequently three times a day before meals (5 drops is equivalent to .3 cc.). In all seven cases the gas pressure and pain were relieved. Furthermore, no further gas accumulation was detected after treatment had begun. Asthmatics and patients who suffered from constipation were likewise relieved by similar dosages.

That which is claimed is:

1. A method which consists of administering orally a composition comprising at least 50 milligrams of (1) a methylpolysiloxane having a viscosity of at least 200 cs. at 25° C. and (2) from 2 to 15 parts per 100 parts of (1) of a finely-divided filler to a human patient whereby pains caused by the accumulation of gas in the digestive tract of the patient are relieved.

2. A method which consists of administering orally a composition comprising at least 50 milligrams of (1) a methylpolysiloxane having a viscosity of from 250 to 1000 cs. at 25° C. and (2) from 2 to 10 parts per 100 parts of (1) of a finely-divided silica filler, said composition being in the form of an aqueous emulsion, to a human patient whereby pains caused by the accumulation of gas in the digestive tract of the patient are relieved.

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