Office Action Summary	Application No.	Applicant(s)	
	10/469,063	ZHEN-MAN, LIN	
	Examiner	Art Unit	
	John Pak	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/10/06 & decision on petiton of 6/21/07*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/469,063	08/13/2003	Lin Zhen-Man		1357

7590 04/01/2009

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EXAMINER	
PAK, JOHN D	

ART UNIT	PAPER NUMBER
1616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

This application has been revived from abandonment. See the Decision on Petition of 6/21/2007.

Applicant has submitted a new substitute claim set in the reply of 1/10/2006. Applicant has already been notified numerous times that the amendments filed in this application are not in accordance with USPTO Rules. The amendment of 1/10/2006 is again non-compliant with respect to 37 CFR 1.121, portions of which are reproduced below for applicant's convenience –

(c) *Claims* . Amendments to a claim must be made by rewriting the entire claim with all changes (*e.g.*, additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (*e.g.*, Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn—currently amended."

(3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, *i.e.*, without any markings in the presentation of text. The presentation of a clean version of any claim having the status of "original," "withdrawn" or "previously presented" will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of "withdrawn" or "previously presented." Any claim added by amendment must be indicated with the status of "new" and presented in clean version, *i.e.*, without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of "canceled" or "not entered."

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as "canceled" will constitute an instruction to cancel the claim.

A full copy of 37 CFR 1.121 can be accessed from the following:

http://www.uspto.gov/web/offices/pac/mpep/mpep_e8r7_appxr.pdf. If this link fails to

function, applicant may navigate the USPTO website to find the appropriate pages for Patent Rules.

Applicant was additionally provided with several examples of how to properly amend claims in the Office action of 9/30/2005. Such examples show how to amend claims in compliance with the USPTO Rules, as set forth above. However, all of the claims filed on 1/10/2006 are again not compliant.

Given that applicant has already received three formal notices as to non-compliance of all claim amendments thus far to absolutely no avail, it appears that the best course of action in order to expedite the further examination of this application is to simply examine the claims as currently filed even though they are formally non-compliant. The Examiner shall assume that applicant had intended to cancel all previously pending claims in order to substitute them for the new claims filed on 1/10/2006, with "(new") claim identifiers and claim numbering starting consecutively from claim 5 (since the last proper claim was claim numbered 4).

Claims numbered as 1-8 by applicant in the amendment of 1/10/2006 will presently be examined.

The amendment filed on 1/10/2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

(1) Applicant has added the following new paragraphs to the specification, which constitutes new matter.

Per fluorine chemical compound (Per fluoro chemicals, PFC) in the innovation medicine application of this case is an important liquid-medium of oxygen for separate out single oxygen-atom. The member-type of PFC are **C(5-18)F(12-38)**, the length of chain of member structure was shown at the number of C, the number of C decides was inner physical special quality, so the Boiling-Point was at **30℃-215℃**. That is to say, the Boiling-Point temperature with the number of C is in proportion. This application seeks to first recommend **C6F14 or C7F16**, its purpose for volatilizes as soon as possible then pouring into the lung after destroys the germs. But in actual practice of clinical option, more considerations will have to be taken into account, for instance, the level of ulcer by the germs influence and the density of single oxygen-atom and so on; however, then the other fluorine chemical compounds such as **C5F9H3O** while offering swim-dissociating for the liquid medium of single oxygen-atom, which must emphasize the density effect of single oxygen-atom Depletion Potential.

3. Mixing of PFC and ozone

The working process-method of mixing the PFC and ozone are shown in Fig.4. Fig.4-1 shows the ozone supply ; Fig.4-2 shows the O3 Contriver ; Fig.4-3 shows the PFC supply ; Fig.4-4 shows the passageway valve of liquid ; Fig.4-5 shows the pump of gas and liquid mixing ; Fig.4-6 is the mix vessel ; Fig.4-7 is the digital type tester of ozone density which has the export-ability to brake of the working of the mixing pump ; Fig.4-8 is the controller of altitude of liquid and have the export-ability to the working of the passageway valve of liquid.

V. Conclusion

From the viewpoints mentioned above, the ability of ozone to kill virus was recognized worldwide, ozone application in the PFC solvent was confirmed by 1 of remark of the famous production businesses, the PFC solvent used in the lung had also supported by 2-8 of remark of medical document. Therefore, combining the PFC solution and ozone together will attack the SARS virus in no time. The[method] medicine scheme will definitely treat the SARS virus infection and there will be no side effect at all. This invention will save many lives and change medical-history for lung Infection-Disease.

The handling effect of difference in temperature of invention's theory can also kill dead cancer-cell under completely no side effect, the effect of medical treatment cannot compared with Electrotherapy and Chemotherapy, hence the invention bring Gospel for cancer patient, it was so far the brand-new medical concept and brand-new medical method of "Frozen-Therapy".

-end-

Remark of Paper/WebPages:

1. http://cms.3m.com/cms/US/en/2-68/iFcFiFM/view.jhtml
2. http://www.vghtpe.gov.tw/~clinmed/ (89年12月期) [Chinese]

Paper in international journals:

3. Jeng MJ, Kou YR*, Sheu CC, Hwang B. Effects of Exogenous Surfactant Supplementation and Partial Liquid Ventilation on Acute Lung Injury Induced by Wood Smoke Inhalation in Newborn Piglets. Crit Care Med 2003; 31:1166-1174
4. Jeng MJ*, Yang SS, Wolfson MR, Shaffer TH. Perfluorochemical (PFC) Combinations for Acute Lung Injury: An in Vitro and in Vivo Study in Juvenile Rabbits. Pediatr Res 2003;53:81-88.
5. Jeng MJ*, Oliver R, Wolfson MR, Shaffer TH. Partial liquid ventilation: effect of initial dose and redosing strategy in acute lung injury. Pediatr Crit Care Med 2002;3:163-171.
6. Jeng MJ*, Kou YR, Sheu CC, Hwang B. Effects of partial liquid ventilation with FC-77 on acute lung injury in newborn piglets. Pediatr Pulmonol 2002; 33:12-21.
7. Jeng MJ*, Trevisanuto D, Weis CM, Fox WW, Wolfson MR, Shaffer TH. The role of ventilation strategy on Perfluorochemical (PFC) evaporation from the lungs. J Appl Physiol 2001; 90: 1365-1372.
8. Trevisanuto D, Jeng MJ*, Weis CM, Fox WW, Wolfson MR, Shaffer TH. Positive end-expiratory pressure modulates perfluorochemical evaporation from the lungs. Biol Neonate 2003;84:53-58.

This is new subject that was not in the original specification. Not underlined. New matter, too.

Such details of the invention were not provided as of the original filing date of 8/13/2003 or the International filing date of 6/12/2003. Therefore, such new details are deemed new matter, which were not conveyed by the originally filed disclosure. Lack of proper markings also constitute non-compliance with the Rules for properly amending the specification. Note, only the originally filed specification has been granted entry, because all other subsequent amendments are non-compliant, so all markings must be relative to the originally filed specification.

(2) Applicant has also added new Figure 4 in the response of 1/10/2006. This figure was never before disclosed. This constitutes new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 5 has been amended/added as follows, with underlines showing additions:

5. In the claim 2, wherein said the liquid includes all liquids of fluorine element.

The inventive concept that the liquid includes all liquids of fluorine element, which conceivably includes for example NaF in aqueous solution, was not conveyed by the originally filed disclosure, which was filed on 8/13/2003, the International Application of which was filed on 6/12/2003. This constitutes new matter.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) All of the claims cannot be sufficiently understood because the English therein is awkward and/or grammatically incorrect.

(2) Claim 7 depends on itself. This is most confusing. The claim is defective beyond comprehension. Claim 8 depends on claim 7 so it is likewise beyond comprehension. **Claims 7-8 cannot be further examined on the merits because their inherent deficiencies preclude an even partial understanding of its metes and bounds**.

(3) In claims 1-6, it is extremely confusing as to what is being claimed. Is it a medical process that is being claimed or a composition of matter that is being claimed?

(4) In claim 1, "said the main characteristic" is not only grammatically incorrect but is lacking in antecedent basis. Proper use of "said" requires a previous recitation of that subject matter.

(5) In claim 2, "the claim of patent medicine" lacks antecedent basis.

(6) Claim 2 is a run-on sentence so it cannot be understood.

(7) In claim 3, "said including any other lung diseases" is confusing and lacks antecedent basis.

(8) In claim 4, "said to add the substitute" lacks antecedent basis.

(9) In claim 5, "said the liquid" is grammatically incorrect and confusing.

(10) In claim 6, "said includes" is confusing and lacks antecedent basis.

(11) Claims 3-6 appear to be incomplete or run-on sentences.

All claims are so poorly written that they cannot be fully understood. All claims are deemed vague, unclear and indefinite.

Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Although it cannot be accurately determined whether claims 1-6 are directed to a process or a composition category of invention, the claims appear to be directed to a treatment of SARS-infected lungs by injecting a sterilizing liquid into the lung lobes, wherein the sterilizing liquid can include perflurocarbons (PFCs) and ozone.

The breadth of the claims is demonstrated by claim 1, which reads on treating SARS-infected lungs with any sterilizing liquid. Claim 2 further defines the sterilizing liquid to PFCs and ozone. The nature of the invention is in treating lungs infected with SARS, which is an extremely dangerous and contagious viral respiratory disease.

A March 24, 2003 statement from the **World Health Organization** establishes the state of the prior art knowledge regarding treatment for SARS:

> While some medicines have been tried, no drug can, at this time, be recommended for prophylaxis or treatment. Antibiotics do not appear to be effective. Symptoms should be treated by adequately protected health

> professionals. As a result of good supportive care, some patients in Hanoi has been transferred from critical care wards to regular wards.

World Health Organization, "Frequently Asked Questions on Severe Acute Respiratory Syndrome (SARS)."

The level of one of ordinary skill in this art is quite high. An infectious disease specialist M.D. or Ph.D. is typically the level of ordinary skill required to treat SARS patients.

The level of unpredictability in the art is plenary. At the time of the effective filing date of this application, there was no known medicine or drug to effectively treat SARS patients. *Additionally, the skilled person in this art would have known that effect of* ozone on SARS-infected lungs would have been unpredictable as to efficacy for treating SARS. This is because ozone is known to have adverse effects on the lung. **HCAPLUS abstract 1993:446554** discloses ozone exposure to increase the susceptibility of mice to pulmonary bacterial infection. **HCAPLUS abstract 1962:41562** discloses mice exposed to ozone demonstrated a significant decrease in resistance to respiratory infection initiated by challenge with an aerosol of Klebsiella pneumoniae. The decrease in resistance led to increase in mortality rate and shortening of survival time. Even after the effective filing date of this application it was still widely known that ozone can directly induce lung injury (**HCAPLUS abstract 2005:1339341**). **HCAPLUS abstract 1993:2173** is a prior art document that establishes the same view that ozone is known to be injurious to the lung.

The originally filed disclosure provides direction to combine ozone and PFCs to treat SARS-infected lungs, but there is no data or working example. Applicant provides this assurance of efficacy without any experimental data (page 3 of the specification) (underlining in the original) –

Discussion 5

Injecting sterilizer into lung lobes is the subject matter of surface treatment technique of this article. I do not specialize in medicine but just a little medically minded. Inspired by the idea of relieving oral and throat inflammation with brine solution, I managed to find some suitable solvent and sterilizer, but it has to undergo clinical test. But I'm sure that so long as some qualified chemist proposes and there is an adequate range of solvents and sterilizers, SARS will be overcome!

Applicant also states that animal testing should first be done before using the invention on humans (see below, emphases added). The animal test is "intended to prove that it applies to process 3, the human body treatment."

3. Lung "surface treatment" flow

The treatment flow takes the treatment for example of the right lung, while reserving the breath of the left lung for the time being. The final purpose is to treat both lungs at the same time. Process 3 can only be used only after process 4. Test it with animal lung, before applying it on human. It must be noted that the test with animal lung is intended to prove that it applies to process 3, the human body treatment. The advantage of the reverse sequence is time saving.

Hence, it can be concluded that applicant did not perform the animal tests, or at the very least applicant did not provide data for animal tests (see original specification page 5, empty testing form).

All of these factors must be weighed in deciding the issue of adequate enablement. Here, the quantity of experimentation that one skilled in the art must undertake to use the invention based on the content of the originally filed disclosure would be undue. A SARS-infected patient does not enjoy the luxury of trying one

treatment and if that one does not work, or worse if that one aggravates the disease, then resorting to other effective treatments to overcome the disease. Applicant's claims are extremely broad, and one of the key components, ozone, would have been recognized by one skilled in the art as potentially having an adverse and injurious effect on the SARS-infected lung. Whether the sterilizing effect of ozone could outweigh its potentially injurious and exacerbating effect on diseased lungs is quite unpredictable. In the absence of sufficient data to show otherwise, one skilled in the art would not readily accept applicant's assertions; and the one skilled in the art would be faced with undue experimentation to treat SARS-infected lungs as claimed.

For these reasons, all claims must be rejected. No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to JOHN PAK whose telephone number is **(571)272-0620.** The Examiner can normally be reached on Monday to Friday from 8 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's SPE, Johann Richter, can be reached on **(571)272-0646**.

The fax phone number for the organization where this application or proceeding is assigned is **(571)273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John Pak/
Primary Examiner, Art Unit 1616

Notice of References Cited	Application/Control No. 10/469,063	Applicant(s)/Patent Under Reexamination ZHEN-MAN, LIN	
	Examiner John Pak	Art Unit 1616	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	World Health Organization, "Frequently Asked Questions on Severe Acute Respiratory Syndrome (SARS)," 23 March 2003 [online, retrieved on 26 March 2009]. Retrieved from the Internet: ,URL: http://www.who.int/csr/sars/sarsfaq/en/print.html>.
	V	HCAPLUS abstract 1993:446554 (1993).
	W	HCAPLUS abstract 1962:41562 (1962).
	X	HCAPLUS abstract 2005:1339341 (2005).

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

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	Examiner John Pak	Art Unit 1616	Page 2 of 2

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	L	US-			
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	HCAPLUS abstract 1993:2173 (1993).
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

World Health Organization

Frequently Asked Questions on Severe Acute Respiratory Syndrome (SARS)

24 March 2003

Q : What are the symptoms of SARS ?

A : The main symptoms of SARS are high fever (> 38° Celsius), dry cough, shortness of breath or breathing difficulties. Changes in chest X-rays indicative of pneumonia also occur. SARS may be associated with other symptoms, including headache, muscular stiffness, loss of appetite, malaise, confusion, rash and diarrhoea.

Q : How contagious is SARS ?

A : Based on currently available evidence, close contact with an infected person is needed for the infective agent to spread from one person to another. Contact with aerosolized (exhaled) droplets and bodily secretions from an infected person appears to be important. To date, the majority of cases have occurred in hospital workers who have cared for SARS patients and the close family members of these patients. However, the amount of the infective agent needed to cause an infection has not yet been determined.

Q : How should SARS patients be managed?

A : Patients should be placed in an isolation unit. Strict respiratory and mucusol barrier nursing is recommended. It is very important that suspected cases are separated from other patients and placed in their own hospital room. Health care workers and visitors should wear efficient filter masks, goggles, aprons, head covers, and gloves when in close contact with the patient. Hospital Infection Control Guidance

Q : What is the treatment for SARS ?

A : While some medicines have been tried, no drug can, at this time, be recommended for prophylaxis or treatment. Antibiotics do not appear to be effective. Symptoms should be treated by adequately protected health professionals. As a result of good supportive care, some patients in Hanoi have been transferred from critical care wards to regular wards.

Q : When will this disease be identified ?

A : An international multicenter research project to expedite identification of the causative agent was established on Monday 17 March. Eleven top labs in ten countries are consulting daily and are working together to identify the causative agent. Various specimens have been collected from cases and post-mortem examinations. Laboratory tests are ongoing and a candidate causative infectious agent is under investigation.

Q : How fast does SARS spread ?

A : SARS appears to be less infectious than influenza. The incubation period is short, estimated to range from 2-7 days, with 3-5 days being more common. However, the speed of international travel creates a risk that cases can rapidly spread around the world.

Q : Where and when was the first case of SARS reported ?

A : On 26 February, a man was admitted to hospital in Hanoi with high fever, dry cough, myalgia (muscle soreness) and mild sore throat. Over the next four days he developed increasing breathing difficulties, severe thrombocytopenia (low platelet count) and signs of adult respiratory distress syndrome requiring ventilator support.

Q : How many cases of SARS have been reported to date ?

A : From 1 February to 24 March, 456 cases including seventeen deaths have been reported. In the early stages the symptoms are similar to those of many diseases including influenza. Heightened awareness about the disease, and the vigilance of health authorities around the world, have resulted in a close watch for suspected cases and rapid and thorough reporting. Not all of these suspected cases may prove to be SARS. There are many reports and rumours coming in from around the world, but quite a few of these will turn out to

be normal wintertime activity of diseases like influenza whose early symptoms are similar. The cumulative number of cases and deaths is continuously updated on the WHO web site .

Q : How many countries report cases of SARS ?

A . As of 24 March, cases had been reported from thirteen countries. Of these, four countries have only imported cases with no documented local transmission, indicating that the disease is not spreading in these countries and residents are not at risk.

Q : Is the outbreak in Guangdong Province, China linked ?

A : Extensive investigation is under way to better understand the outbreak of atypical (unusual) pneumonia that began in Guangdong province in November 2002. Findings from this investigation should help clarify possible links with cases of SARS.

Q : Could this result from bioterrorism ?

A : There is no indication that SARS is linked to bioterrorism.

Q : Should we be worried ?

A : This illness can be severe and, due to global travel, has spread to several countries in a relatively short period of time. However, SARS is not highly contagious when protective measures are used, and the percentage of cases that have been fatal is low. Since the WHO global alert issued on 15 March, only isolated cases have been identified and no secondary outbreaks have occurred.

Q : Is it safe to travel ?

A : WHO has not recommended restricting travel to any destination in the world. However, all travellers should be aware of the main symptoms and signs of SARS, as given above. People who have these symptoms and have been in close contact with a person who has been diagnosed with SARS, or have a recent history of travel to areas where cases of SARS have been spreading, should seek medical attention and inform health care staff of recent travel. Travellers who develop these symptoms are advised not to undertake further travel until fully recovered.

Q : What is the purpose of a global travel advisory ?

A : The purpose of the advisory WHO issued on 15 Marchis to tell people what SARS looks like and what they need to report to a physician. The WHO alert does not recommend cancellation of, or change in, travel plans. Trade and tourism should not be restricted. The purpose of the alert is to heighten the awareness of travellers, health authorities, and physicians, not to restrict travel.

Q : Could this be the next flu pandemic ?

A : Tests have not yet conclusively identified the causative agent of SARS. The possible involvement of an influenza virus was an initial concern.

Q What does WHO recommend ?

A : WHO recommends that global surveillance continue and that suspected cases are reported to national health authorities. WHO urges national health authorities to remain on the alert for suspected cases and followed recommended protective measures. SARS patients should be isolated and cared for using barrier nursing techniques and provided with symptomatic treatment.

Q : How can the public keep apprised of the situation ?

A : The public is advised to consult the home page of the WHO website: for daily updates on the outbreak and relevant press releases. More information is available on the WHO SARS web page which is easily accessed through the WHO home page or through: Severe Acute Respiratory Syndrome (SARS) Many national authorities have also established web sites with excellent information for both the general public and the medical profession.

Q : What is WHO doing ?

A : WHO, through the Global Outbreak Alert and Response Network, is working with its partners to track the global dimensions of this outbreak and coordinate efforts to quickly identify the causative agent, improve diagnostic precision, and provide advice on recommended treatment. WHO works closely with health authorities in the affected countries to provide epidemiological, clinical and logistic support as needed.

A WHO/Global Outbreak Alert and Response Network team of epidemiologists, case management, infection control and laboratory experts is assisting national health authorities particularly in Vietnam. The Hanoi team has received personnel and supplies from a number of organizations throughout the world. WHO epidemiologists are also supporting investigations in Hong Kong and China.

Q : What are the objectives of the international response to the multi-country SARS outbreak ?

A : The overarching aims of the international response, coordinated by WHO, are to:

- Contain and control the outbreak
- Identify the causative agent
- Identify effective treatment regimes
- Support health care infrastructure in affected countries by coordinating supplies and additional health care workers if needed
- Provide information to health officials and address public concerns

Q :Are there any positive developments ?

A : A significant number of cases in Viet Nam, as a result of good supportive care, have improved. In addition, the global surveillance system has proven to be a very sensitive and rapid means of reporting of suspected cases. Health authorities around the world are now alert to the risk of SARS. Information on cases compiled over the last three weeks is expected to shed new light on the behaviour of this disease. Secondary outbreaks have to date been avoided since global surveillance was put in place and rapid isolation of cases undertaken.

AN 1962:41562 HCAPLUS
DN 56:41562
OREF 56:7893f-g
TI Effect of atmospheric pollutants on susceptibility to respiratory infection. I. Effect of ozone
AU Purvis, M. R.; Miller, S.; Ehrlich, R.
CS Armour Research Foundation, Chicago
SO Journal of Infectious Diseases (1961), 109, 238-42
CODEN: JIDIAQ; ISSN: 0022-1899
DT Journal
LA Unavailable
AB Mice exposed to 4 p.p.m. of ozone for 3 hrs. demonstrated a significant decrease in resistance to respiratory infection initiated by challenge with an aerosol of Klebsiella pneumoniae administered less then 19 to 27 hrs. after exposure to ozone. The decrease in resistance was demonstrated by an increase in mortality rate and shortening of survival time.

AN 1993:446554 HCAPLUS
DN 119:46554
OREF 119:8423a,8426a
TI Ozone-enhanced pulmonary infection with Streptococcus zooepidemicus in mice: the role of alveolar macrophage function and capsular virulence factors
AU Gilmour, Matthew Ian; Park, Patricia; Selgrade, Maryjane K.
CS Cent. Environ. Med. Lung Biol., Univ. North Carolina, Chapel Hill, NC, USA
SO American Review of Respiratory Disease (1993), 147(3), 753-60
CODEN: ARDSBL; ISSN: 0003-0805
DT Journal
LA English
AB O3 exposure has been shown to increase the susceptibility of mice to pulmonary bacterial infection. The differences in susceptibility of 2 strains of mice (C3H/HeJ and C57B1/6) to pulmonary challenge with S. zooepidemicus are reported, and an association between O3 exposure, reduced alveolar macrophage (AM) function, and increased mortality to infection is demonstrated. After a 3-h exposure to air or to 0.4 or 0.8 ppm O3, mice received an infection of bacteria by aerosol. Subsequent mortality over a 20-day period for any given exposure concentration was greater in the C3H/HeJ mice than in the C57B1/6 mice. Phagocytosis assays identified the AM from O3-exposed lungs as having an impaired ability to engulf the bacteria. Basal phagocytic activity in C3H/HeJ mice was lower than that in C57B1/6 mice. Microbiol. assessment of the lungs at various times after infection revealed that the streptococci proliferated rapidly in the lungs of O3-exposed mice, grew more quickly upon isolation, and displayed a mucoid colony appearance indicative of increased encapsulation. In vitro assays confirmed that the encapsulated isolates prevented binding of the bacteria to AM, and reinfection of nonexposed mice with the encapsulated isolate resulted in increased mortality compared with infection with similar nos. of the original unencapsulated bacteria. Thus, O3 inhalation impairs AM activity in the lung. The streptococci are then able to proliferate and more fully express virulence factors, in particular the antiphagocytic capsule, which prohibits the ingestion of bacteria by pulmonary phagocytes and leads to increased severity of infection.

AN 1993:2173 HCAPLUS
DN 118:2173
OREF 118:478h,479a
TI Acute ozone-induced lung injury in rats: structural-functional relationships of developing alveolar edema
AU Paterson, James F.; Hammond, Michael D.; Montgomery, Mark R.; Sharp, John T.; Farrier, Sean E.; Balis, John U.
CS Res. Serv., James A. Haley Veterans Hosp., Tampa, FL, 33612-4799, USA
SO Toxicology and Applied Pharmacology (1992), 117(1), 37-45
CODEN: TXAPA9; ISSN: 0041-008X
DT Journal
LA English
AB As part of a study on the effects of acute ozone stress on the lung surfactant system, the authors correlated morphometric, biochem., and functional indexes of lung injury using male rats exposed to 3 ppm ozone for 1, 2, 4, and 8 h. Evaluation of lung mechanics, using the Pulmonary Evaluation and Diagnostic Laboratory System, revealed a significant decrease in dynamic lung compliance (mL/cmH2O/kg) from a control value of 0.84 to 0.72 and 0.57 at 4 and 8 h, resp. At 2 h there was a transient increase in PaO2 to 116 torr (control = 92 torr) followed by a decrease at 4 h (65 torr) and 8 h (55 torr). Morphometry of lung tissue, fixed by perfusion of fixative via the pulmonary artery at 12 cm H2O airway distending pressure, demonstrated an increase in the area of the intravascular compartment at 8 h, in association with a 65 and 39% replacement of the alveolar area by fluid in ventral and dorsal lung regions, resp. There was a pos. correlation (r = 0.966) between alveolar edema and transudated proteins in lavage fluid. A stepwise multiple regression model, with edema as the dependent variable, suggested that pulmonary vasodilatation, hypoxemia, and depletion of surfactant tubular myelin in lavage fluid were indexes for predicting alveolar edema. In a second model, with lavage protein concentration as the dependent variable, decreasing dynamic compliance and hypoxemia were predictors of progressive, intraalveolar transudation of plasma proteins. The above structural-functional relationships support the concept that ozone-induced high-protein alveolar edema is pathogenetically linked to pulmonary hyperemia, deficiency of surfactant tubular myelin, and associated lung dysfunctions.