

# **INTRAVENOUS HONEY INJECTION IN HUMANS**

By

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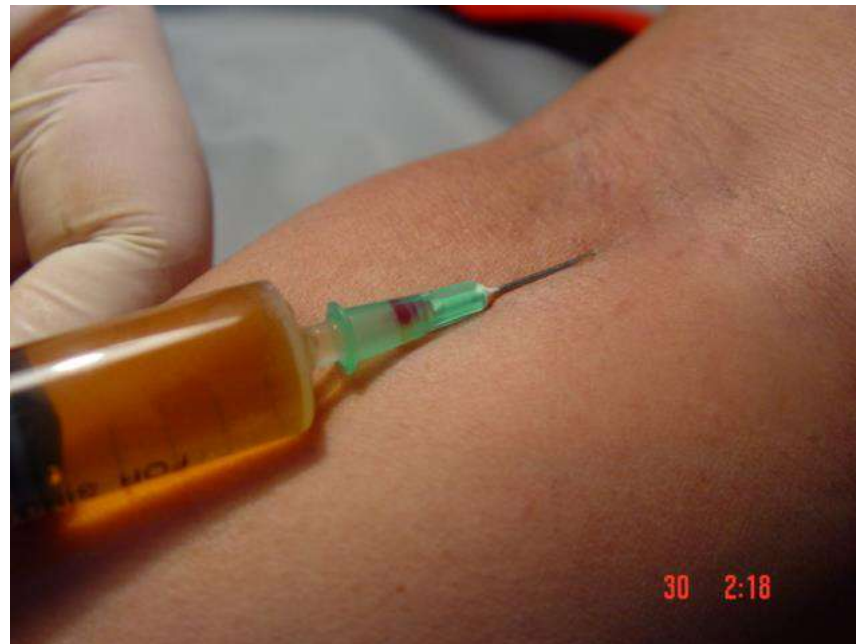
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**FROM 2001 UNTIL TODAY**

**2774 INJECTIONS OF HONEY SOLUTIONS**

**WERE GIVEN TO**

**140 HUMAN VOLUNTEERS**



# **METHOD OF PREPARATION AND ADMINISTRATION**

# RAW, UNPROCESSED HONEY WAS USED



**Ziziphus honey from Yemen, Pakistan and Oman  
~ 2600 injections**



**Acacia honey from France and Romania  
~ 100 injections**



**Clover honey from Egypt  
~ 74 injections**

**The majority of the  
honey samples were not  
subjected to  
physicochemical analysis  
before the injections**

# **STEPS OF HONEY INJECTION**

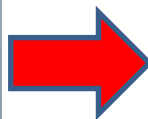
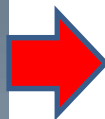
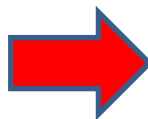


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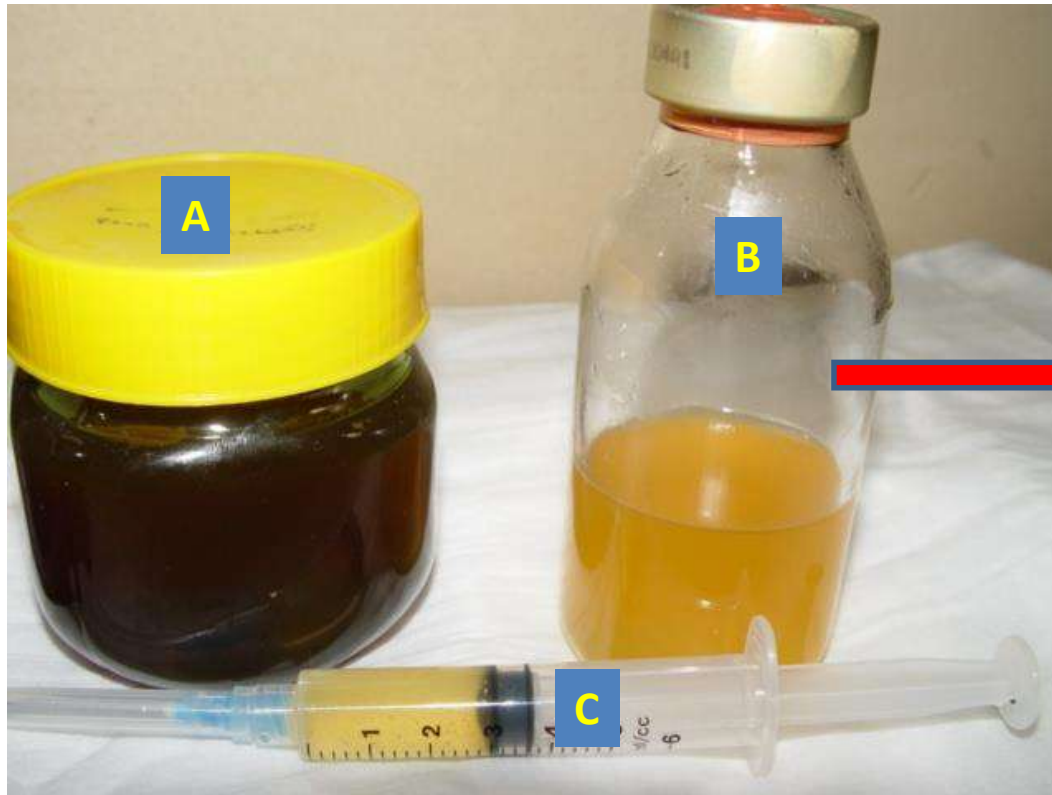




**Honey solution (homogenous) after shaking**

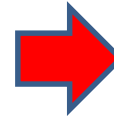


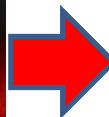
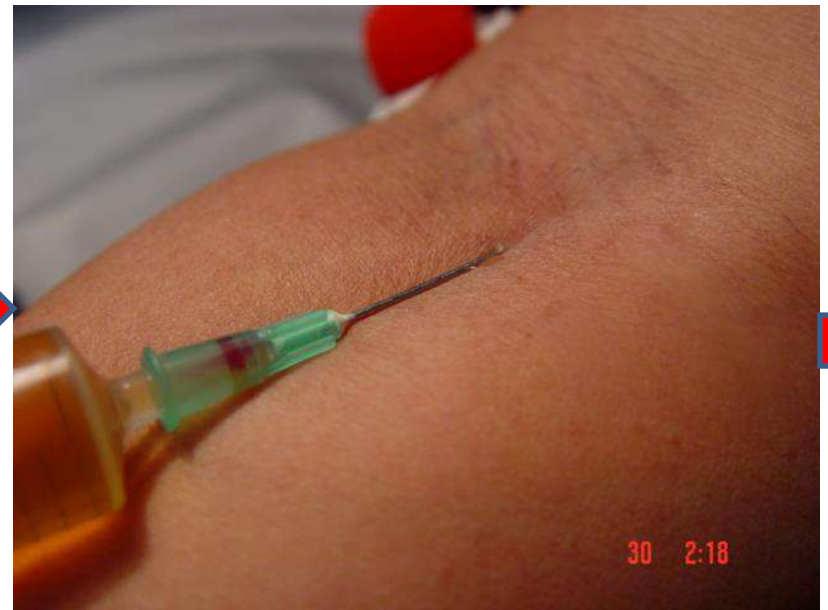
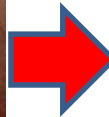
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**(B) A sterilized glass vial containing the honey solution ready for injection. These vials were kept in a refrigerator at 4 – 8 °C for 3 months, without spoiling.**









# INTRAVENOUS INJECTION OF HONEY SOLUTION



Honey solution can be given as slow as 0.25 ml honey/min, and as rapid as 1 ml honey/min

# RECEPIENTS (VOLUNTEERS)



**128 ADULTS**

(14 – 67 Yrs; Median = 40 Yrs)

(M:F = 3:2)



**12 CHILDREN**

(6 mo - 12Yrs)

(M = 5; F = 7)

**VOLUNTEERS**



**91.4%**

**HAD ONE OR MORE DISEASES**

**8.6%**

**HEALTHY**

# DISEASES

<i>Disease</i>	<i>No.</i>	<i>Disease</i>	<i>No.</i>
<b>Type 2 DM</b>	38	Gout	1
Type 1 DM	1	Acute pancreatitis	1
<b>Chronic hepatitis C</b>	28	Cerebral stroke	1
Chronic hepatitis B	1	Myasthenia gravis and chronic ITP	1
<b>Allergic disorders</b>	17	PCOS	1
Cancer	6	Psychosomatic disorder	1
Gastritis/gastro-duodenitis	5	Primary epilepsy	1
Rheumatoid arthritis	4	Menopausal symptoms	1
Knee osteoarthritis	1	Premenopausal symptoms	1
SLE	1	Low back pain	2
Traumatic paraplegia/quadriplegia (gunshot)	3	Essential hypertension	2

# DISEASES

<i>Disease</i>	<i>No.</i>	<i>Disease</i>	<i>No.</i>
<b>Infections</b>	12	Renal colic	3
Primary nocturnal enuresis	2	Insomnia	2
Headache	1	Azospermia	1
Chronic constipation and encopresis	1	Spastic colon	2
Trigeminal neuralgia	1	Unexplained elevated liver enzymes	1

**THE NUMBER OF INJECTIONS  
GIVEN TO EACH PERSON  
RANGED FROM  
1 – 330 INJECTIONS  
MEAN = 18 INJECTIONS/PERSON**

**THE CONCENTRATION  
OF  
THE INJECTED HONEY  
SOLUTION  
RANGED FROM  
4 – 50%  
MEAN = 20%**

**THE INTERVAL  
BETWEEN INJECTIONS  
RANGED FROM  
6 HOURS – 390 DAYS  
MEDIAN = 7 DAYS**



# RESULTS

**NO ONE DEVELOPED**  
**ANAPHYLAXIS or**  
**any LIFE – THREATENING EVENT**  
**AFTER IVI OF HONEY**

In all subjects in whom extravasation of honey solution occurred during injection; a red, tender swelling developed at the site of extravasation and disappeared spontaneously after 1 – 3 days without adverse effects e.g., necrosis, ulceration or abscess formation.

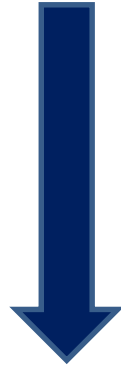


Extravasation of honey solution

# EFFECTS OF IV HONEY IN DISEASES



**Positive from  
the start  
(37%)**



**Positive preceded  
by negative  
(56%)**



**No effect  
(7%)**

# The Negative Reactions to IV honey



## SPECIFIC



A temporary increase  
in the symptoms and  
signs of the  
underlying illness or  
illnesses



## NON-SPECIFIC



Not related to the  
underlying disease

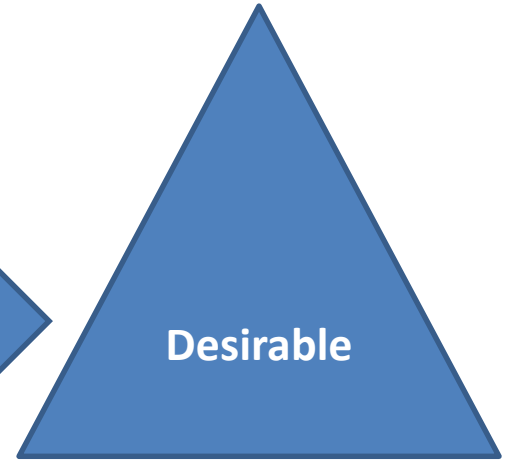
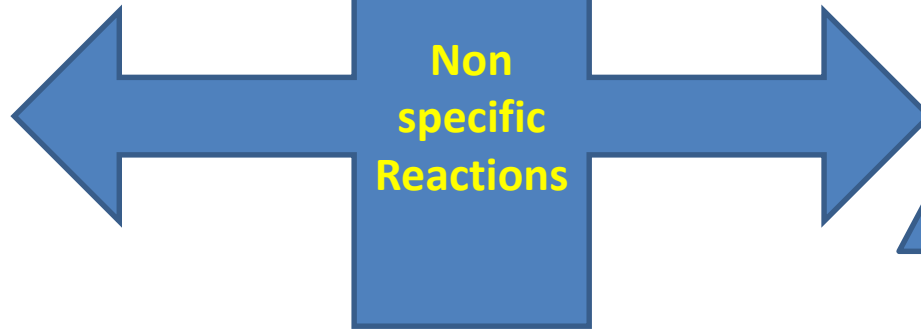
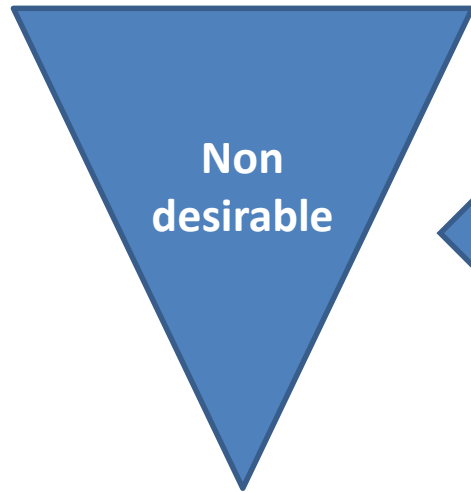
**Non  
desirable**

Fatigue, fever,  
body aches

**Non  
specific  
Reactions**

**Desirable**

General well-being,  
feeling of calm  
healthy look



**SPECIFIC NEGATIVE REACTIONS  
TO  
IV HONEY**

# **SPECIFIC NEGATIVE REACTIONS TO IV HONEY**

1. Fever  $\pm$  chills
2. Vomiting
3. Cough  $\pm$  wheezes
4. Abdominal pain
5. Epigastric pain
6. Chest pain
7. Urticarial rash
8. Nasal itching, discharge, sneezing
9. Retrosternal pain or burning



**IV HONEY**



**FEVER**



**Underlying infection or non-infectious  
cause of fever e.g., tumor**

**42% of the recipients**

**32% of the injections**



**FEVER ± CHILLS  
AFTER IV HONEY**



**Developed 1 - 2 hours after the injection.  
Subsides spontaneously after 0.5 - 1.5  
hours.**

# **IV HONEY**



# **VOMITING**



Gastritis, Gastroenteritis, Peptic ulcer, Food poisoning, Intestinal obstruction; or other diseases causing vomiting

**IV HONEY**



**COUGH ± WHEEZES**



Respiratory disease

**IV HONEY**



**ABDOMINAL PAIN**



Abdominal disease

**IV HONEY**



**EPIGASTRIC PAIN**



Gastritis, peptic ulcer

**IV HONEY**



**URTICARIAL RASH**



Urticaria

**IV HONEY**



**CHEST PAIN**



Silent coronary heart disease,  
costochondritis; chest, lung or  
pleural disease



**IV HONEY**



**NASAL ITCHING, DISCHARGE, SNEEZING**



Rhinitis; infectious or non-infectious

**IV HONEY**



**RETROSTERNAL PAIN OR BURNING**



Esophagitis, Gastroesophageal  
reflux

**The Negative Reactions to IV honey**  
**are**  
**“MISLEADING BENIGN REACTIONS”,**  
**because**

1. Usually transient and subside spontaneously
2. Usually associated with or followed by improvement  
(positive effect)
3. Did not lead to worsening of the underlying illness

These “*misleading* reactions” might be  
*misinterpreted* as allergy or toxicity from  
honey

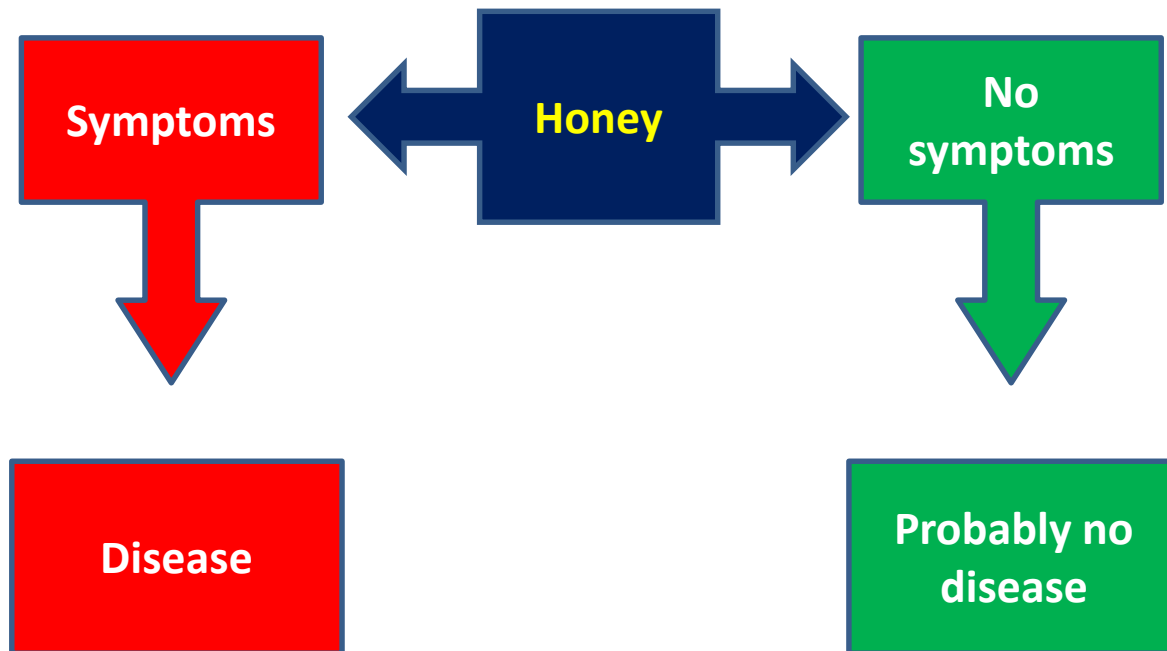
Misinterpretation of these “misleading”  
reactions by persons not expert with the  
honey therapy may lead to the use of  
unnecessary medications or discontinuation  
of honey therapy

**THE SEVERITY AND THE DURATION OF THE  
INITIAL AGGRAVATION OF SYMPTOMS  
AND SIGNS OF THE UNDERLYING DISEASE,  
AS A NEGATIVE REACTION TO HONEY  
THERAPY, IS USUALLY, BUT NOT ALWAYS,  
PROPORTIONATE TO THE SEVERITY AND  
DURATION OF THIS DISEASE**

# **The Negative Reactions to IV honey may help in**

1. Diagnosis or confirmation of diagnosis of a disease
2. Testing honey AUTHENTICITY

# In Asymptomatic person



**EFFECTS OF**  
**LONG-TERM HONEY THERAPY (IV + ORAL)**  
**IN**  
**SOME DISEASES**



# **DIABETES MELLITUS (TYPE 2) [20 patients]**

**Mean duration = 2.6 years [5 months – 14 years]**

**1. Persistent hyperglycemia**

**2. Persistent dyslipidemia**

**1. Body weight reduction**

**2. No comas**

**3. Improved macro-vascular disorders**

**4. Less or no micro-vascular complications**

**5. No diet restrictions**

# Chronic Hepatitis C [28 patients]

## Mean duration = 3.2 years [2 weeks – 12 years]

Effect	No. (%)
Improved liver function and PCR turned negative	4 (14.3%)
Improved liver function with increased virus load in PCR	3 (10.7%)
Improved liver function; follow-up PCR not done	9 (32.1%)
Improved platelet count; but liver function tests remained abnormal	2 (7.1%)
Follow-up liver function tests not done	9 (32.1%)
Liver function tests remained abnormal	1 (3.6%)
Deterioration of the liver and general condition	0
Liver cell failure	0
Hepatocellular carcinoma	0

**ACUTE EFFECTS OF IV HONEY**

**IN**

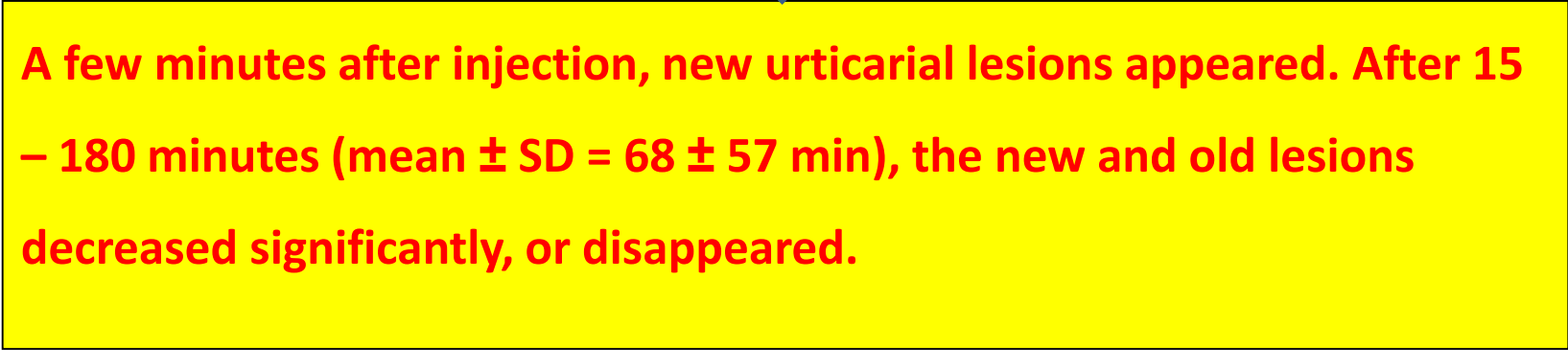
**ALLERGIC DISORDERS**



**IV  
Honey**




**Urticaria/Angioedema  
(5 patients)**




**A few minutes after injection, new urticarial lesions appeared. After 15 – 180 minutes (mean  $\pm$  SD =  $68 \pm 57$  min), the new and old lesions decreased significantly, or disappeared.**



**IV  
Honey**




**Allergic Rhinitis/Sinusitis  
(10 patients)**



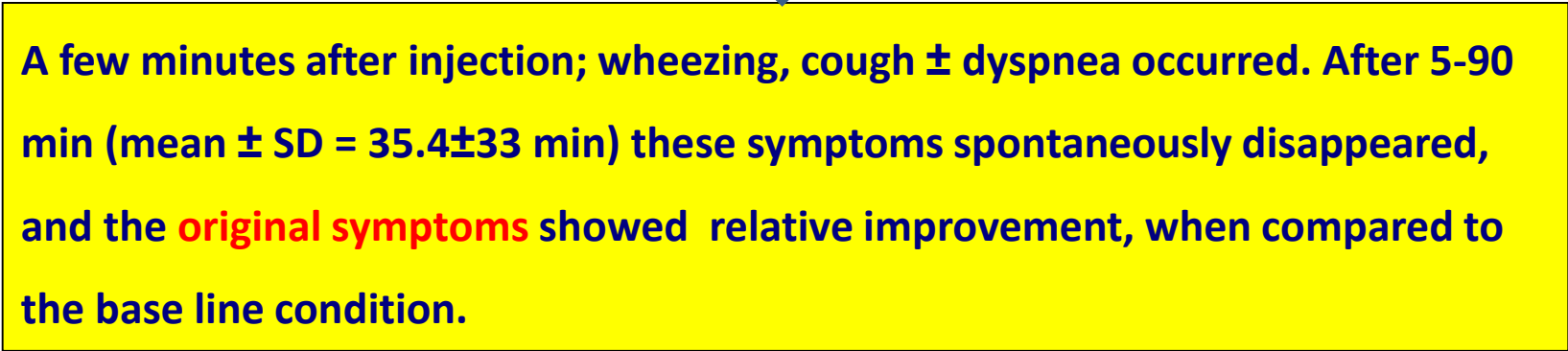
**A few minutes after injection; frequent sneezing, nasal stuffiness, nasal itching and nasal discharge occurred. After 10 -75 min (mean  $\pm$  SD = (33.4 $\pm$ 23.5 min) these symptoms spontaneously disappeared, and the **original symptoms** showed relative improvement, when compared to the base line condition.**



**IV  
Honey**



**Bronchial Asthma  
(10 patients)**



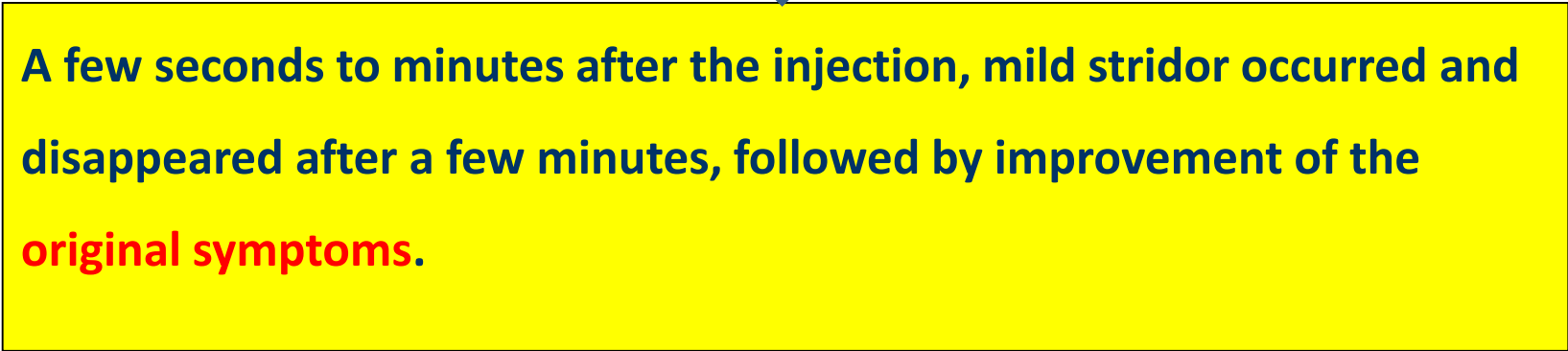
A few minutes after injection; wheezing, cough  $\pm$  dyspnea occurred. After 5-90 min (mean  $\pm$  SD =  $35.4 \pm 33$  min) these symptoms spontaneously disappeared, and the **original symptoms** showed relative improvement, when compared to the base line condition.



**IV  
Honey**



**Allergic Laryngitis  
(2 patients)**



A few seconds to minutes after the injection, mild stridor occurred and disappeared after a few minutes, followed by improvement of the **original symptoms.**

**IV  
Honey**



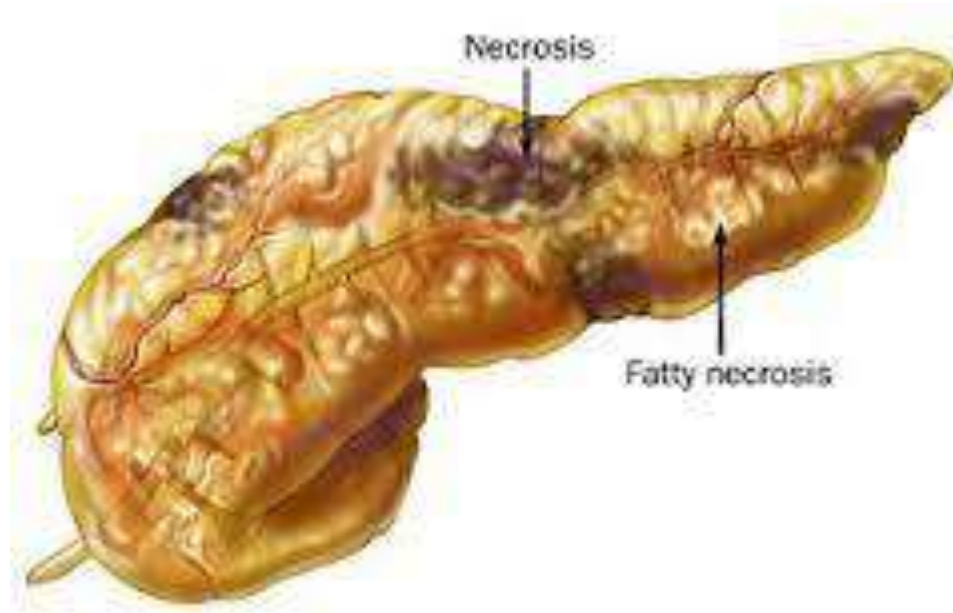
**Allergic Conjunctivitis  
(2 patients)**



**Itching , redness and tearing occurred within seconds and disappeared  
spontaneously after 30 – 60 min**



# IV HONEY IN ACUTE PANCREATITIS



**Daily intravenous injections of 10% honey solution for a total of 10 injections resulted in complete recovery of a 30 years-old female with acute pancreatitis . The patient was followed-up for 16 years, with no recurrence of acute pancreatitis.**

# IV HONEY IN RHEUMATOID ARTHRITIS (RA)



**Case 1: Improvement after initial aggravation of S&S of RA occurred in a 33 years-old female after one year –honey therapy (46 injections of 20% concentration, of which 34 injections were given during pregnancy)**

**Case 2: Improvement occurred in a 33 years-old female after 1.3 years-honey therapy (13 injections of 10-30 % concentration , of which 10 injections were given during pregnancy)**

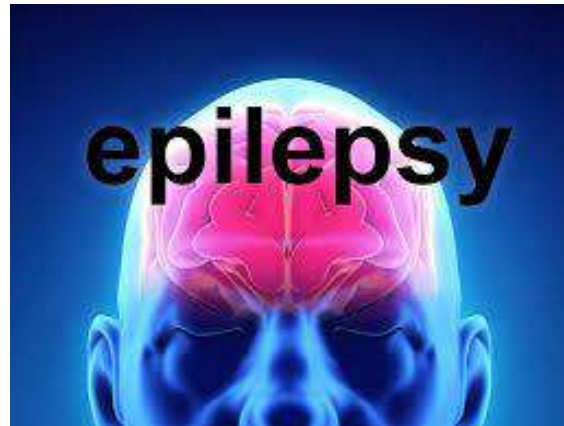
**Case 3: Fifty one honey injections of 20-50 % concentration over a period of 4 months resulted it improvement in blood picture (especially neutropenia), sleep and allergic laryngitis , but she stopped the intervention and resumed her medicines because of the aggravation of S&S of RA**

# IV HONEY DURING PREGNANCY



**Two pregnant women with rheumatoid arthritis received IV honey injections during their pregnancy, without adverse effects on the mother or fetus. The injections started during the first trimester and continued throughout pregnancy. Both women delivered normal babies.**

# IV HONEY IN EPILEPSY



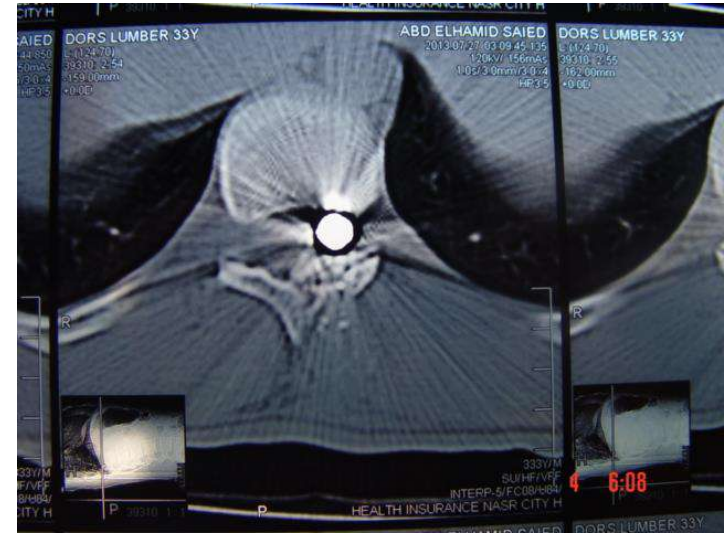
A 3 years-honey therapy, both oral and IV, decreased the frequency, the duration and the severity of GTC in a 55 years-old man with primary epilepsy of 3 years duration. The frequency decreased from 12 to one attack/year. He received a total of 48 injections of 10-20% concentration.

# IV HONEY IN CEREBRAL STROKE



**IVI of 5 ml 20% honey solution q 12 hours every week resulted in marked improvement in a 56 years- old man presented with acute left sided hemiplegia. Significant improvement in the muscle power was observed after the 8<sup>th</sup> injection (after one month). He received a total of 15 injections . He resumed his work as a butcher . He was followed-up for 13 years with no recurrence or sequelae, except very mild speech affection.**

# IV HONEY IN TRAUMATIC PARAPLEGIA DUE TO GUN SHOT



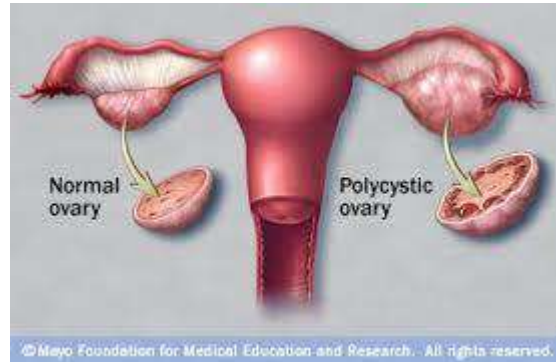
**A 24 years-old boy was injured by a bullet resulting in a near complete paraplegia, more evident on left side**

**He received IVI of 5 ml 20% concentration every 1-2 days for a total of 296 injections until his right leg became 95% normal and left leg 60% normal. Next year he was able to marry and his wife got pregnant after 6 months**

**Regression of the muscle power and increased spasticity occurred mainly of the left side, when he stopped the honey injections for almost 2 years**



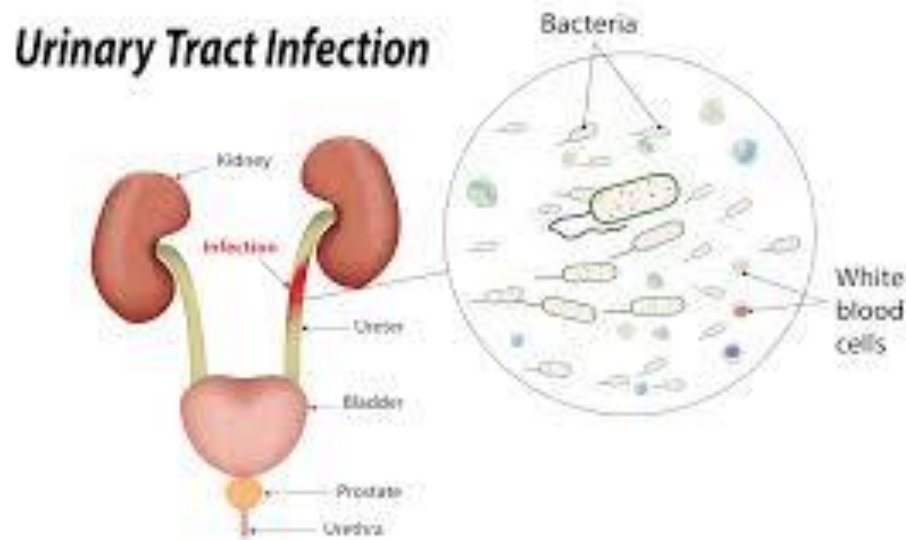
# IV HONEY IN PCOS



**32 intravenous injections of honey solution of 20 to 36% concentration over a period of 6 months in a 33 years-old woman with PCOS and primary infertility of 7 years resulted in**

- 1. Menstruation**
- 2. Significant decrease of signs of Hirsutism**
- 3. Decreased serum levels of testosterone, LH and FSH; and increased levels estradiol**
- 4. After 8 years she got pregnant through IVF, and delivered a normal baby boy**

# IV HONEY IN UTI



**In two female adult patients with UTI, daily intravenous injection of 5 ml honey solution of 20% for 3 days resulted in improvement.**

**In a 5 years-old female child with UTI, once daily IVI of 3 ml honey solution of 10% concentration for 2 days resulted also in improvement**



# IV HONEY IN CHILDREN



**IV HONEY WAS GIVEN  
TO 12 CHILDREN OF  
BOTH SEXES, AGED 6  
MONTHS TO 12 YEARS.**



**Why did the parents request IV honey for their children?**

- 1. Untreatable disease (e.g., malignancy)**
- 2. Seeking cure and not just symptomatic relief (e.g., bronchial asthma)**
- 3. The parents themselves; their relatives had already IV honey before their children, and found it safe.**

# DISEASES

<i>Disease</i>	<i>No. of children</i>	<i>Age /Sex</i>
ALL on supportive treatment after failure of all other treatment including bone marrow transplantation	1	11 years/F
Type 1 diabetes mellitus	1	12 years/F
Bronchial asthma	3	0.5 – 2.9 years/M&F
Typhoid fever	1	9 years/M
Congenital Cytomegalovirus	1	1.6 years/F
Primary nocturnal enuresis	2	9 – 12 years/M
Urinary tract infection	1	5 years/F
Acute gastritis and urticaria	1	8 years/F
Acute follicular tonsillitis	1	3 years/M

# TYPHOID FEVER



**Five intravenous injections of honey solution , each 5 ml of 10% concentration in addition to intravenous antibiotics , resulted in a cure of a 9 years-old boy with typhoid fever in 10 days . No recurrence reported on the next 6 years follow-up .**

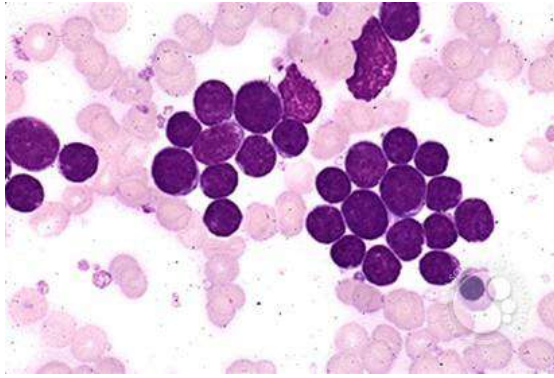
# CONGENITAL CYTOMEGALOVIRUS DISEASE (CMV)



A 1.6 years-old female child, diagnosed as congenital CMV , presented with microcephaly, mental retardation, global developmental delay, failure to thrive, hepatosplenomegaly and multiple small hemangiomas over the face, trunk, and limbs. She was admitted to the hospital because of high fever, cough and recurrent vomiting.

Along with IV fluids and antibiotics, she received 8 injections of honey solution, each 3 ml 10% concentration with a median interval of 15 hours. She was discharged from the hospital with no fever or vomiting after 4 days.

# ACUTE LYMPHOBLASTIC LEUKEMIA (ALL)



- An 11 years-old girl, was a known patient with ALL on supportive treatment after failure of all treatment modalities, including bone marrow transplantation.
- She presented in a very bad general condition. Her body weight was 21 kg, her pulse = 105/min, her B/P 90/60, her temperature was 38.5°C. She had severe gingivitis with bleeding gums in addition to severe respiratory tract infection.
- Her Hb% was 9.7 g/dl, the total leucocytic count was very high (TLC =  $138 \times 10^3/\text{mm}^3$ ), with 98% blast cells in the peripheral blood. The platelet count was low ( $55 \times 10^3/\text{mm}^3$ ).
- She received only two injections of honey solution, each 5 ml of 20% concentration, with 24 hr. apart. However, she died after four days because of the very bad general and the severe chest infection.

# TYPE 1 DIABETES MELLITUS

Honey therapy, both oral and IV (3 injections of honey solution, each 5 ml 10% concentration), with insulin over a period of 1.5 months resulted in persistent hyperglycemia without dehydration or ketonuria in a 12 years-old girl having type 1 DM of 2.5 years duration.

However, when insulin stopped and she received only honey therapy, both oral and IV (2 injections of honey solution, each 5 ml 10% concentration), she developed DKA and was admitted to the hospital for 3 days and discharged improved.

During her hospital stay, she received 3 more honey injections in addition to the traditional treatment. After hospital discharge, she received 2 more injections, but thereafter no more honey was given because of persistent hyperglycemia.

# CONCLUSIONS





**IVI OF RAW HONEY SOLUTIONS, 4 TO 50%**

**CONCENTRATION, IS SAFE, AND MAY BE**

**RECOMMENDED IN THERAPEUTIC TRIALS TARGETING**

**NOT ONLY INTRACTABLE DISEASES BUT ALSO OTHER**

**DISEASES.**

**GIVING HONEY BY THE INTRAVENOUS ROUTE PROVIDES A VERY RAPID WAY OF ADMINISTRATION IN SMALLER DOSES COMPARED TO THE ORAL DOSES.**

**HOWEVER, FURTHER STUDIES ARE NEEDED TO DETERMINE THE BIO-EQUIVALENCE BETWEEN THE ORAL AND THE INTRAVENOUS DOSES OF HONEY.**



# DIAGNOSTIC VALUE OF HONEY

Specific reactions to intravenous honey indicate that honey specifically targets the disease or diseases, and reacts both directly and indirectly to get rid of it. The indirect way by which honey reacts with a disease might be through its immune-modulator effects. Honey might thus act as a “magic bullet” specific and directed to human disease. These reactions may thus help not only in a cure, but also in diagnosis of a disease, and might also be a clue of testing honey authenticity.

## **FUTURE STUDIES ARE NEEDED TO ANSWER THE QUESTIONS**

- 1. Are the effects of IVI of RAW honey comparable with those of the MICROFILTERED honey?**
- 2. Does the removal of some particles from honey by microfiltration decrease the therapeutic effects of honey?**

**In the author's opinion; particles, including bacteria, which are removed by microfiltration might have therapeutic benefits.**

**Microfiltration aims at removing particles, which may theoretically produce serious reactions like anaphylaxis or infections in the recipient, but practically this did not happen in my clinical trial**

**THANK YOU**