

Complications from Flu is a Taboo

How to treat and manage patients suffering from influenza in order to prevent unnecessary complications and adverse outcome

Janetta Strauss, MBChB, MPharmMed

Abstract

The healthcare provider plays a pivotal role in preventing flu complications, be it by offering flu vaccinations or by referring a patient to a general practitioner should flu symptoms linger for too long. The Northern hemisphere suffered through an intense flu season this past winter. As of early March 2018, the number of U.S. paediatric deaths associated with the disease surpassed 150, and the cumulative hospitalisation rate had reached its highest level since 2010.¹ Our aim is to learn from these experiences and ultimately reduce mortality.

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Introduction

Despite new discoveries in medicine, the old expression “prevention is better than cure” stays true in medical practice. It is far easier to prevent complications by administering flu vaccinations than to treat complications such as pneumonia, myocarditis or encephalitis. The flu season abroad was intense, the main reason believed to be low effectivity of the vaccine against H3N2, resulting in more outbreaks and complications.² However, it is still advisable to go for immunisations as complications and severity would be less. We need to remind patients that the common cold (*rhino, corona and adeno*) and flu (*influenza*) are caused by viruses, therefore antibiotic treatment is not needed unless there is a secondary bacterial infection. It is necessary to explain the differences between the symptoms of a common cold and that of flu, as these terms are often used interchangeably by patients.

Table 1 refers to these differences and explains the conditions that present with nasal congestion with their overlapping symptoms that need to be distinguished from one another.

The mainstay treatment of the common cold and flu is symptomatic as antiviral medication is not our first line of treatment although it was recently proven in clinical trials (meta-analyses) that in high risk patients, prevention with antivirals might have merit. High risk patients in this context was considered: residents in nursing and chronic care facilities, adults > 65 years, pregnant women (and two weeks post-partum) and patients with chronic medical conditions (cardiac, respiratory, immuno-incompetent).² The management of the common cold and flu should be guided by the medical history provided by the patient. Information

on the duration and severity of symptoms as well as the co-morbid conditions are needed to decide whether the patient can do with an Over-The-Counter (OTC) intervention alone, or whether the HCP needs to refer the patient for a consultation with a General Practitioner (GP). Our elderly and paediatric populations are our biggest concern as we often struggle to assess symptoms in small children and as the elderly often present atypical (eg. apyrexial).

In the paediatric population it is important to prompt the caregiver for the following information:

1. Does the patient have a body temperature more than 38.4 °C for longer than 3 consecutive days?
2. Is the patient refusing feeds for a prolonged period of time (several days)?
3. Is there a decreased responsiveness, an increased irritability or lethargy?
4. Does the patient have symptoms of rapid breathing or seem to breath with great effort?
5. Are there signs of red eyes or a yellow discharge from the eyes?
6. Does the caregiver report signs or symptoms of an ear infection (often increased crying when baby is placed in a horizontal position)?

If the answer to any of the above questions is YES, the patient should be referred to a GP for a consultation.³

As mentioned, the elderly population (patients >65 years old) is also at risk of complications (pneumonia, myocarditis, sinusitis) from the influenza virus due to a weakened immune system and co-morbid conditions. It is necessary

Table 1: Difference in characteristics between the common cold, flu and allergic rhinitis ^{5,6}

Characteristics	Common cold	Flu	Allergic rhinitis
Onset	Gradual	Abrupt	Varies: quantity of allergen levels
Causative organism	Adeno, rhino and corona viruses	Influenza A and B	No organism, allergen
Nasal congestion	Yes	Yes	Yes
Fever	Mild to moderate <39	Moderate to high >39	No
Headaches	Rare	Common	Rare
Myalgia	Rare	Common	Rare
Sneezing	Common	Sometimes	Common
Sore throat	Common	Sometimes	Common
Coughing	Mild to moderate	Common, can be severe	Often due to post-nasal drip

to be vigilant in identifying warning signs and symptoms, ultimately seeking early intervention to prevent an adverse outcome.

The following symptoms and signs should be investigated :

1. Symptoms worsening after 3-4 days
2. Develop difficulty in breathing (dyspnea)
3. Chest pain
4. Confusion
5. Severe vomiting and diarrhoea
6. Lethargy

If any of the above-mentioned are present, a referral is needed to ensure that complications are prevented and supportive treatment is started sooner than later.

Symptoms and treatment

General considerations

It is a good opportunity to educate patients on the value of flu vaccinations. Many patients are skeptical whether there is any value, reporting that they've had a flu shot in the past but still fell ill. The value of preventing complications due to the flu (myocarditis, pneumonia, encephalitis) and the reduction in severity of an acquired influenza infection should be stressed. The fact that it does not prevent against the viruses of the common cold (*rhino, corona and adeno*), which is another disease entity altogether and often confused with flu, should be communicated. We should make people attend to the fact that if you are in contact with people who are prone to complicated influenza infections, it is to get vaccinated, therefore, for the greater good.

General body aches, myalgia and headaches can be relieved with analgesics and/or anti-inflammatories. NSAIDs should be used with caution in patients with severe hypertension, history of peptic ulcer disease and compromised renal function. Arthrotec® (Diclofenac sodium and Misoprostol) is a good choice in patients with a history of peptic ulcer disease. Misoprostol has a protective effect needed for patients with a compromised gastric mucosa (note that it is

contra-indicated in pregnancy). Paracetamol remains a good anti-pyretic and can be administered every 4-6 hours (adults dose: 500mg to 1g every 4-6 hours, with maximum of 4g per day). Empaped® suppositories are used in the paediatric population and is valuable especially in children who refuse feeds and therefore presents with a challenge of oral intake of any kind. Aspirin (Disprin®) is also efficacious in treating high fevers in adults and can be combined/alternated with Paracetamol.

Encourage sufficient fluid intake to lubricate the mucous membranes and to replace fluid loss due to high fevers. It can also help to reduce sputum viscosity promoting drainage of secretions.

Nasal symptoms

Nasal congestion due to a cold is the result of viruses damaging the ciliated cells in the nasal cavity and the bronchi. This damage initiates the release of inflammatory and neurogenic mediators contributing to plasma exudation and vasodilatation resulting in oedema and swelling of the nasal mucosa. Sneezing and a post-nasal drip might also be present, the latter causing in some instances, a sore throat and a cough. Nasal congestion can be treated topically or systematically. Topical preparations cause less side-effects and is therefore our first choice. *Table 2* lists several topical preparations that can be dispensed. Its limitation however is that it can be used for only 3 days or up to 6 days, if used at night only due to rebound-congestion.

The use of a hypertonic Saline nose spray (eg. Drixine® hypertonic nasal spray) concomitantly is a good strategy and should be continued after the 3-day period of topical decongestants. Promote the use of preservative-free sprays, such as Drixine® and Sterimar® which are better tolerated by patients sensitive to additives. It promotes the flushing of nasal secretions (getting rid of the viruses in the nasal cavity), reduces nasal oedema and improve the nasal cavity's susceptibility to absorb preparations (clearing the nasal cavity of secretions). A practical approach is to use an antihistamine at night (not combination preparations with pseudo-ephedrine, ephedrine or phenylpropanolamine

Table 2: Topical preparations to treat symptoms and signs of common cold and flu^{4,7}

Systemic preparations	Active ingredient	Indication/duration	Contra-indications/special considerations
Sinustat Flu®	Paracetamol, phenylpropanolamine	Congestion, pain and fever due to common cold and flu	Use with caution in patients with cardiovascular disease, hypertension and hyperthyroidism
Sinutab 3-way®	Pseudoephedrine, Ibuprofen	Cold, flu and sinusitis	Use with caution in hypertension, glaucoma, peptic ulcer disease
Demazin®	Phenylephrine, chlorpheniramine	Short term decongestant	Contra-indicated in severe hypertension, cardiovascular disease and hyperthyroidism use with caution, several drug-drug interactions
Coryx® (paediatric)	Tripolidine, Pseudoephedrine, vit C	Used in paediatric population from 2 years	Contra-indicated in severe hypertension, cardiovascular disease, hyperthyroidism and diabetes mellitus use with caution,
Flusin®	Chlorpheniramine, ephedrine, paracetamol, caffeine	Decongestant, antihistamine and pain relief	Contra-indicated in severe hypertension, cardiovascular disease and hyperthyroidism use with caution, caffeine may cause insomnia

Table 3: Systemic preparations to treat symptoms and signs of common cold and flu

Topical Preparation	Active ingredient	Indication/duration	Contra-indications/special considerations
Iliadin®	Oxymetazoline	Relief symptoms, use <6 days	Lower dose/ml than Drixine
Adco-Naphensyl®	Phenylephrine	Short-term relief	Use with caution in hypertensives and patients with cardiovascular disorders
VibrociL-S®	Dimthindene, phenylephrine	Short-term relief	Use with caution in hypertensives and patients with cardiovascular disorders
ENT®	Phenylephrine, naphazoline	Every 6 hours for 3 days, age 3 to adults	Use with caution in severe coronary disease and hypertension
Sinumax Allergy Nasal Spray®	Levocabastine	Antihistamine- Rhinitis	Possibility of local irritation documented
Andolex®	Benzylamine, Alcohol	Throat inflammation	Contains alcohol
Medi-Keel A®	Benzocaine, cetylpyridinium	Sore throat	Use with caution in combination with anti-cholinergics
Strepsils Intensive®	Flurbiprofen, sugar	Throat inflammation	Not suitable for diabetics

which can cause restlessness and palpitations) to dry secretions and reduce coughing due to post-nasal drip when lying flat. During the day it is advisable to stimulate nasal drainage and this can be enhanced by Hypertonic saline nose sprays as well as mucolytic preparations like ACC 200® or Prospan®'s effervescent tablets.

If congestion cannot be reduced by topical preparations alone, a systemic preparation can be used instead whilst concomitantly using hypertonic saline nasal sprays. *Table 3* lists preparations, mostly in combination with antihistamines, paracetamol/aspirin and pseudoephedrine to combat nasal congestion. The limitation of these systemic preparations is that it should be used with caution in patients with severe hypertension, cardiac pathology (abnormal cardiac rhythms, heart failure, myocardial infarction, angina), hyperthyroidism and men with prostate enlargement. The elderly patient often has co-morbidities and prove to be a therapeutic challenge in this regard.

Rhinitis can be treated with anti-histamines. The second generation anti-histamines are a good choice and has less side-effects (sedation, dry mouth) than the first generation. Most remedies registered for colds and flu are combination preparations (anti-pyretic or anti-inflammatory plus

decongestant) and should be used with caution due to its anticholinergic effect causing thickening of the secretions in the lungs, sinuses and the middle ear. This may lead to increased stasis and inhibit drainage.

Fever and pain

The patient presenting with flu will report an abnormal body temperature (or the suspicion there of) more often than a patient presenting with a common cold. It should also be remembered that the elderly often does not present with a fever due to a weakening fever response due to age (older is colder). Fever can be treated with anti-pyretics (paracetamol or aspirin in adults) and with Non-Steroidal Anti-Inflammatory medications (Ibuprofen®, Naproxen®). These preparations can be used 8-hourly and will help the patient to feel better in general. If a high fever persists, an NSAID and paracetamol/aspirin can be alternated every 4 hours. NSAIDs also reduces inflammation (sore throat) and the analgesic effect will improve myalgia and headache often part of the symptomatology.

Throat lozenges or a local anaesthetic throat spray can be used in addition to the analgesics or anti-inflammatories to sooth a sore throat or in cases where there is a contra-

indication for systemic NSAID, paracetamol or aspirin use. In order to reduce throat pain fast and efficaciously, especially in children struggling to feed, suggest administration of an anaesthetic throat spray prior to feeding/meals. Where the administration of medication per os is a challenge due to painful swallowing or vomiting, Voltaren® or Empaped® suppositories are an effective route to control body temperature, body aches and a sore throat. It can be dispensed to adults and paediatric patients.

Coughing

There are many cough preparations on the market. Suppressing a cough for example in a patient with lung cancer, terminal illness or alveolitis due to fibrose, might prove necessary but an otherwise healthy patient that presents with a productive cough, suppression will lead to mucous retention and stasis which in turn is a good growth medium for organisms. The fact is, a continuous cough especially at night is not ideal and not conducive to a good night's rest or recovery from illness. It would be better to give a cough suppressor at night.⁷ Dextromethorphan (Benylin Dry Cough[®]) is a good option to suppress a non-productive cough and can be also be used in the paediatric population (preferably from 6 years of age). Pholcodine (Pholtex Junior[®] and Pholtex Forte[®]) is an alternative and is registered for use in a paediatric patient from 1 years of age. Codeine phosphate has a similar method of action as Dextromethorphan but has more side-effects. Common side-effects include constipation, dizziness or excitation, nausea and vomiting, dependency and in some patients, respiratory depression. It will therefore not be your first line of choice in asthmatics or dependency-prone patients. Some cough mixtures have a high alcohol content and cannot be used in patients with alcohol addiction. It does have additive analgesic effects in combination with paracetamol, aspirin and NSAIDs and this property can be leveraged to the patient's advantage.

Antihistamines and topical nasal steroids are more beneficial in a cough associated with allergic rhinitis⁷

If there is no bronchospasm or suspected bacterial infection present with only a mild irritating cough a simple linctus (citric acid monohydrate, anise water, amaranth, chloroform)

or homemade mix of lemon and honey can alleviate mild symptoms.

If the patient appears to be having tightness of the chest, a bronchodilator inhaler can be added. This is not often the case in patients suffering from an uncomplicated common cold or flu episode but might be a reality in asthmatics where a viral infection will exacerbate their asthmatic symptoms.

Some patients may benefit from Saline inhalations and the use of a humidifier to improve the conditions in the room.

Conclusion

The successful management of a patient with a common cold or flu starts promoting vaccination before the flu season starts! Take time to obtain a proper medical history of signs and symptoms. The duration of symptoms, the assessment of co-morbidities and acting upon danger signs in patients at risk of complications, will reduce morbidity and mortality of these viral infections. The HCP has an important role to play in educating patients in terms of prevention of disease (flu vaccinations) as well as to help them to distinguish between a bout of flu or just a common cold. Treating the patients' symptoms effectively is a challenge especially in the realm of increased patient demands. In 1918, 100 years ago a flu pandemic hit the world, killing between 50 and 100 million people, we have progressed, let us not lose momentum!

References

1. <https://www.cdc.gov/flu/weekly/summary.htm>
2. http://www.idsociety.org/Influenza_Statement.aspx#sthash.TORcP4q9.dpufhttp://www.idsociety.org/Influenza_Statement.aspx (Accessed on January 03, 2015).
3. Patient information: The common cold in children (Beyond the Basics) Diane E Pappas, MD, JD UpToDate, Wolters Kluwer
4. Monthly Index of Medical Specialities, Volume 58 number 1, February 2018
5. <http://www.webmd.com/cold-and-flu/flu-guide/fact-sheet-elderly-people>
6. <http://www.webmd.com/allergies/sinusitis-and-sinus-infection>
7. South African Medicines Formulary, 12th Edition