PHARMACY PRACTICE

An official publication of

DEPARTMENT OF PHARMACY PRACTICE
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Issue No. 7 February - 2017 NEWS LETTER

DYSPEPSIA (INDIGESTION)

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"Half of the patients who get up at the middle of night and think they are dying are suffering from wind"

Dyspepsia or indigestion is a difficult, sometimes vague symptom to define or evaluate and requires very careful questioning to clarify the real nature of the compliant. It is a common term used to characterize abdominal pain centered in the epigastrium, sometimes combined with other GI symptoms. Dyspepsia comes from the Greek word "Dys" and "Pepse" which means difficult digestion. Dyspepsia includes the following :

* Nausea
* Heartburn/regurgitation
* Upper abdominal discomfort
* Acidity
* Epigastric fullness
* Abdominal distension

The diagnoses to be considered in dyspeptic patients are:

Gastrointestinal disorders

* Gastroesophageal reflux including hiatus hernia
* Functional dyspepsia
* Peptic ulcer
* Upper GI malignancies
* Hepatobiliary diseases
* Pancreatitis
* Upper GI inflammation(gastritis, Crohn's etc)
* Irritable bowel syndrome

Non gastrointestinal disorders

* Myocardial ischemia
* Drug reaction
* Alcohol effect
* Anxiety/stress
* Depression

Diagnostic strategy model

A. Probability diagnosis
   * Irritable upper GIT
   * Gastro esophageal reflux
   * Esophageal dysmobility
B. Serious disorders not to be missed
   * Neoplasm-stomach,pancreas,oesophagus
   * Cardiovascular-IHD,CCF
   * Pancreatitis
   * Peptic ulcer
C. Pit falls (often missed)
   * Myocardial ischemia
   * Pregnancy
   * Food allergy
   * Biliary motility disorder
   * Other gall bladder disorders
   * Post - vagotomy syndrome
   * Duodenitis

Rarities

* Hyperparathyroidism
* Mesenteric ischemia
* Zollinger Ellison syndrome
* Kidney failure

The diagnostic and management strategies of patients with dyspepsia are based on the degree of concern regarding the presence of serious disease and cost effectiveness. The primary goal is to distinguish the patients who have a higher likelihood of having serious organic disorder warranting early evaluation and those who may be treated initially with empirical antisecretary therapy or H. pylori eradication therapy. Hence,it is worthwhile spending sometime clarifying the exact nature of the presenting complaints.

Considering the higher incidence of malignancy in patient younger than 45 years in Indian

population, the following recommendation may be very appropriate. Patients 35 years or younger without alarming features should receive a test and treat approach, followed by acid suppression.

Dyspepsia in patients older than 45 years with alarming symptoms or persistence of symptoms or recurrence of symptoms during or after empirical therapy should be evaluated.

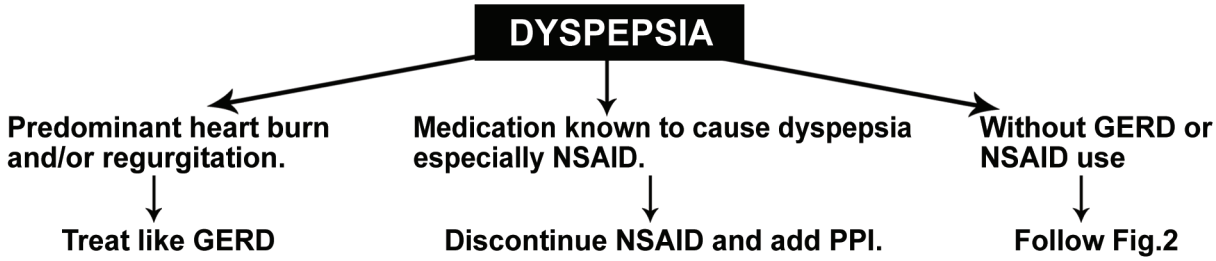

Fig.1 Initial management of dyspepsia

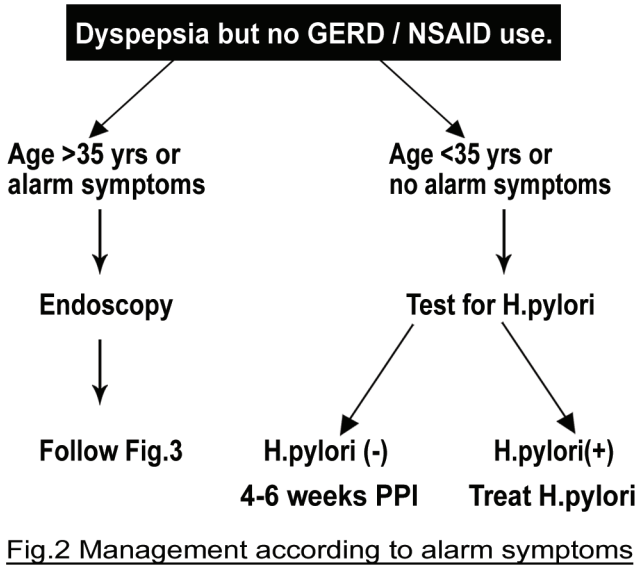

Fig.2 Management according to alarm symptoms

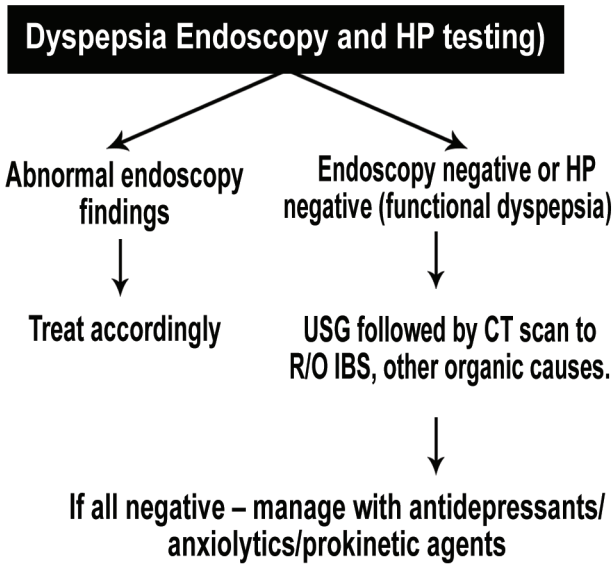

Fig.3 Management of dyspepsia after endoscopy and H.pylori testing.

Practical tips

* Advise patients never to "dry swallow "medicines.
* Dyspepsia always warrants investigation and not observation.
* Beware of attributing anemia to oesophagitis.
* Scleroderma is a rare but important cause of oesophagitis.
* Epigastric pain aggravated by any food, relieved by antacid = chronic gastric ulcer.
* Epigastric pain before meals, relieved by food = chronic duodenal ulcer.
* Keep in mind the malignant potential of gastric ulcer.
* Change in nature of symptoms with gastric ulcer suggests possibility of malignant change.
* Avoid long term use of water soluble antacids.
* Investigate alarm symptoms- dysphagia, bleeding anaemia, weight loss, waking at night, pain radiating to back.

Department Activities

WORLD DIABETES DAY

Department of Pharmacy Practice in association with St James Hospital, Chalakudy organized an awareness programme on World Diabetes Day with the theme "Eyes On Diabetes". Various activities conducted were

- The programme was inaugurated by Smt. Seema Jojo, standing commitee chairperson at St.James Hospital on 17/11/2016. It was blessed with the presence of Rev. Fr. Varghese Pathadan - Director and Rev. Fr. Lijo Kongoth - Associate Director St. James Hospital. Dr. M.V. Mathew, Dr. Thomas VT & Dr. C. Sanil, Physicians of St James Hospital and Dr. K. Krishnakumar, Principal St. James College of Pharmaceutical Sciences shared their views on diabetes.

Rev. Fr. Varghese Pathadan - Director St. James Hospital Lighting The lamp on the Inaugural Function of world diabetes day.

Poster Competition on the topic "eyes on diabetes" at St. James College of Pharmaceutical Sciences.

- Poster competition for the students of St James College Of Pharmaceutical Science on the topic" Eyes On Diabetes"
- Slide presentation on " Diabetes" for outpatients of St James Hospital on 17/11/2016
- Counselling for diabetic patient at St James Hospital by VIth PharmD students on 17/11/2016

COMMUNITY AWARNESS PROGRAMME ON DIABETES

In connection with World Diabetes Day, Department of Pharmacy Practice and St James Hospital jointly organized a community awareness programme on Diabetes at Kodakara on 24/11/2016. Various programmes included were

- Inauguration of the programme by Sri.P.R.Prasadan, President, Kodakara Gramapanchayath
- A talk on " overview of diabetes and precautions while using insulin and oral hypoglycemic agents " by Dr. Arathy Joy, Clinical Pharmacist, St. James Hospital
- An awareness camp with free patients counselling , GRBS and BP Monitoring, Pulmonary Function Test and BMI checking for 250 patients

Rev. Fr. Varghese Pathadan - Director St. James Hospital Delivering the speech on community awarness programme at Kodakara. Shri. P.R. Prasadan - President kodakara gramapanchayath, Mr. K.S. Subeesh - Kodakara S.P. on the stage.

Community Awareness camp of diabetes at kodakara by students of department of pharmacy practice.

WORLD AIDS DAY

Students of St. James College of Pharmaceutical Scienceswere actively participated in "World AIDS Day Awareness Programme "jointly organized by St. James Hospital and Chalakudy Municipality. Our staff and students participated in the flashmob and AIDS awareness rally conducted at Chalakudy Town on 30/ 11/2016 and 1/12/2016 respectively

Flashmob in connection with World AIDS Day by Pharm D students

Flagging of AIDS awareness rally by A.S.P. Irinjalakuda, Mrs. Merin Joseph IPS.

AIDS awareness rally on AIDS Day

- An awareness meeting was conducted at Gopalakrishna auditorium chalakudy and it was inaugurated by Shri. P. Vahid, DYSP Chalakudy on December 2016.

Rev. Fr. Varghese Pathadan - Director St. James Hospital addressing the gathering on AIDS awareness meeting.

HARITHAKERALAM 2016

Our V[th] and VI[th] Pharm D students took part in "Harithakeralam 2016" organized by Chalakudy Municipality and joined their hands with staff of Taluk Head Quarters Hospital , Chalakudy to clean the hospital and its premises on 8/12/2016

Staff and sudents of St. James College of Pharmaceutical Sciences With Rev. Fr. Lijo Kongoth - Associate Director St. James Hospital, Dr. Sivadasan M.G. - Medical Superintendent, Taluk Head Quaters Hospital Chalakudy and Dr. K. Krishnakumar - Principal St. James College of Pharmaceutical Sciences.

ONE DAY SEMINAR

St. James College Of Pharmaceutical Sciences organizedone day seminar on "Career in Pharmacy Practice- A Global Perspective'' at college auditorium on 8/12/2016. Session 1 was handled by Mrs. Geetha Pradeep, University of New England, Australia On the topic "Pharmacy in Australia – a snapshot on

responsibilities and opportunities" and Session IIby Mr. Vijayakumar.A, Chief Hospital Pharmacist, KMCH, Coimbatore on the topic "Monitoring and Reporting ADR – Skills required for Pharmacy Professionals."

Rev. Fr. Varghese Pathadan - Director St. James Hospital Inagurating one day seminar on "Career in Pharmacy Practice - A Global Prospective"

MEDICAL CAMP

Our VI[th] PharmD students rendered their services in the Medical Camp organized by St. James Hospital and

Medical Camp at Malakkappara

Chalakudy South Rotary Club at Malakkappara Community Hall on 17/12/2016

PULSE POLIO

Our V[th] and VI[th] PharmD Students attended Pulse Polio Immunization Training Programme conducted at Taluk Head Quarters Hospital, Chalakudy on 23/01/17 actively participated in the National Pulse Polio Immunization programme held on 29[th], 30[th] and 31[st] of January, 2017.

Pharm D intern of St. James college of Pharmaceutical Sciences giving pulse polio immunization.

CANCER AWARENESS SURVEY

Students of department of pharmacy practice conducting cancer awareness survey organized by Taluk Head Quarters Hospital, Chalakudy.

NATIONAL SCIENCE DAY

National Science day 2017 was celebrated on February 22[nd] Mr. O.L. Thomas corporate trainer in stress management has taken lecture on stress management.

Rev. Fr. Lijo Kongoth - Associate director, St. James Hospital Inaugurating National Science Day.

HIGH LIGHTS

1. A Two Day Workshop On 'Smart Life Long Warning In Pharmacy' To Shape The Future Of Pharmacy Profession In India By Indian Association Of Colleges Of Pharmacy On 21st & 22nd September 2016 At Hotel Savera, Chennai Was Attended By Dr.K.Krishnakumar, Principal St.James College Of Pharmacy, Chalakudy, Dr.L.Panayappan, HOD, Department Of Pharmacy Practice And Dr. Jayaprakash.

2. Dr. K. Krishnakumar, Principal, St. James College Of Pharmacy, Chalakudy delivered a talk on Continuing Education for Pharmacists with the theme "Pharmacists : Caring for You" as part of Pharmacist Day celebrations on 25th September 2016 at Thriveni Institute Of Pharmacy, Mazhuvanchery, Kechery, Thrissur.

3. Mrs. Deepthi C Denny And M Pharm Pharmacy Practice Students Attended A National Seminar On Pharmachem-16 organised by Chemists College Of Pharmaceutical Sciences And Research, Puthencruz on 22nd October 2016.

4. Dr.L.Panayappan Delivered A Talk On "Community Pharmacy As A Career" At Prime College Of Pharmacy, Erattayal, Palakkad On 19th November, Saturday 2016 As Part Of Inauguration Of 55th National Pharmacy Week On The Theme "Pharmacist For A Healthy India:Role In Prevention And Management Of Diabetes".

5. Mrs. Meppil Baby, Mrs. Deepthi C. Denny, Pharm D And M Pharm Pharmacy Practice Students Attended A National Seminar On Diabetes 'Madhumeh 2016' Organized By Pushpagiri College Of Pharmacy, Thiruvalla On 22nd November 2016.

6. A Prolife Training Program Conducted By Human Life International During The 'LAVITA' National Prolife Conference Held On December 2nd- 4th At Sahrdaya College Of Engineering And Technology, Kodakara And Organised By Jesus Youth Prolife Ministry And Family Apostolate, Irinjalakuda Diocese Was Attended By Mr. Leo Mathew, Mrs. Deepthi C. Denny And Pharm D Students.

7. A Two Day Continuing Pharmacy Education Programme-2016,An International Conference On "Frontiers Of Pharmacy Practice In Clinical And Industrial Sector" Was Organised By Crescent College Of Pharmaceutical Sciences Payangadi, Kannur, Kerala On 13th & 14th December 2016 And Attended By Dr.K. Krishnakumar

8. Dr. K. Krishnakumar, Principal, St. James College Of Pharmacy, Chalakudy Attended 68th Indian Pharmaceutical Congress-2016 Held At University College Of Pharmaceutical Sciences, Visakhapatnam, Andhra Pradesh On December 16th-18th. Ms. Chinnu Jerard, Pharm D Intern Bagged The Fourth Place In National Elocution Competition.

9. Mrs. Lincy George, Mrs. Rosmin Jacob, Mrs. Aji Varghese, Pharm D And M.Pharm Pharmacy Practice Students attended and presented posters in the second international conference on clinical pharmacy- CPCON 'Catalyzing changes in health care practice' held on 20th- 21st January 2017 at Manipal University. Ms. Merin Anto Thelappilly of VI pharm D bagged the best abstract award.

10. Mpharm Pharmacy Practice students attended first International Drug Delivery Congress 2017 (IDC 2017) organized by RVS College of Pharmaceutical Sciences and RVS Padmavathi Ammal College of Pharmacy, Sulur, Coimbatore with the theme on Exploring the advances and challenges in drug delivery with emphasis on nano from 20th- 21st January 2017.

Dr. K. Krishnakumar Principal St. James College of Pharmaceutical Sciences delivering the chief guest address in an international seminar at Crescent College of Pharmaceutical Sciences payangadi - Kannur.

Dr. K. Krishnakumar Principal & Dr. L. Panayappan HOD Department of Pharmcay Practice St. James College of Pharmaceutical Sciences with Dr. B. Suresh - President Pharmacy Council of India on the occasion of two day workshop at Chennai.

Congratulations....

Ms. Chinnu Jerard, Pharm D Intern Bagged the Fourth Place in National Elocution Competition on 68th Indian Pharmaceutical Congress at Vishakapattanam.

PUBLICATIONS

1. Delicia E.S, K. Krishnakumar, K. Jayaprakash, L. Panayappan, Spacer Devices : An Add On Parts For Asthma Inhalers, Asian Journal Of Pharmaceutical Research, Vol. 6, Issue 2, 51-53, 2016.

2. Meenu Jose.K, L. Panayappan, K. Krishnakumar, Meppil Baby, Acute Gastroenteritis in Paediatrics : A Review, International Journal of Preclinical and Pharmaceutical Research, 2016:7 (2): 64-66.

3. M.A Nasreen, L. Panayappan, K. Krishnakumar, Meppil Baby, Clinical Significance Of Drug-Drug Interactions: A Review, International Journal Of Current Pharmaceutical And Clinical Research, Vol.6, Issue 3, 130-133, 2016.

4. Neethu Jose, K. Krishnakumar, L. Panayappan, Lincy George, Antibiotic Therapy : Acute Otitis Media : A Review, International Journal of Pharmacotherapy, 6 (2), 2016, 71-72.

5. Nayana K.G, L. Panayappan, K. Krishnakumar, K.Jayaprakash, Thrombo Prophylaxis In Cancer Patients- A Review, Scholars Journal Of Applied Medical Sciences, 2016; 4 (6B): 1953-1955.

6. Maria George, K. Krishnakumar, Lincy George, K. Jayaprakash, L. Panayappan, Overview On Obesity An Arising Risk Factor For Breast Cancer, International Journal Of Pharmacy And Therapeutics, 7 (3), 2016, 106-110.

7. Vivin Vincent, K. Krishnakumar, L. Panayappan, An Overview Of Barriers To Professional Services In A Community Pharmacy, International Journal Of Current Pharmaceutical And Clinical Research, Vol 6, Issue 3, 2016, 134-137.

ADR REPORTED TO OR DETECTED BY DEPARTMENT OF PHARMACY PRACTICE

DRUGS	CATEGORY	ROUTE	NATURE OF ADR
Ceftriaxone	Antibiotic	I.V	Redness and rash
Clozapine	Anti-psychotic	Oral	Hyper salivation
Paracetamol	NSAIDs	Oral	Rashes
Amisulpiride	Anti-psychotic	Oral	Delirium
Ampicillin	Antibiotic	I.V	Itching
Amitryptiline	Anti-depressant	Oral	Numbness
Linezolid	Antibiotic	oral	Vomiting
Metronidazole	Antibiotic	I.V	Vomiting and metallic taste
Quetiapine	Anti-psychotic	Oral	Dry mouth
Olanzapine	Anti-psychotic	Oral	Constipation
Amisulpiride	Anti-psychotic	Oral	Akathesia
Cefotaxime	Antibiotic	I.V	Rash
Fluperazine	Antipsychotic	Deep I.M	Akathesia
Ibuprofen	NSAIDs	Oral	Edema
Etoricoxib	NSAIDs	Oral	Facial swelling
Penicillin	Antibiotic	I.V	Swelling and itching
Ampicillin	Antibiotic	I.V	Oral ulcer
Enoxaparin	Anti-coagulant	Subcutaneous	Prostate bleeding

Phenytoin	Anti-convulsant	Oral	Dermatitis
Nitroglycerine	Anti-anginal	Oral	Headache
Sodium valproate	Anti-convulsant	Oral	Pedal edema
Amoxicillin	Antibiotic	Oral	Numbness and muscle cramps
Ciprofloxacin	Antibiotic	I.V	Itching
Mefenamic acid	NSAIDs	Oral	Diarrhea
Amoxicillin	Antibiotic	Oral	Itching
Cefotaxime	Antibiotic	Oral	Itching
Amoxicillin	Antibiotic	Oral	Urticaria
Enalapril	Antihypertensive	Oral	Swelling of lower lip
Heparin	Anticoagulant	I.V	Itching
Olanzapine	Antipsychotic	Oral	Hyperglycemia
Ceftriaxone	Antibiotic	I.V	Itching and redness
Levofloxacin	Antibiotic	I.V	Itching
Risperidone	Antipsychotic	Oral	Galactorrhoea
Ceftriaxone	Antibiotic	Oral	diarrhoea
Octreotide	Endocrine metabolic agent	Subcutaneous	Nausea and fainting

FDA Approved Drugs

SL. NO	Drug name	Active ingredient	Approval date	FDA-approved use on approval date
1	Taltz	Ixekizumab	3/ 2016	For the treatment of plaque psoriasis,
2	Spinraza	Nusinersan	12/ 23/ 2016	To treat Spinal muscular atrophy
3	Rubraca	Rucaparib	12/ 19/ 2016	To treat Ovarian Cancer
4	Intrarosa	Prasterone	11/ 17/ 2016	Dyspareunia
5	**Vemlidy**	Tenofovir alafenamide	11/10/ 2016	For the treatment of Chronic Hepatitis B
6	**Zinplava**	Bezlotoxumab Injection	10/ 21 /2016	Prevention of Clostridium Difficile Infection Recurrence
7	**Carnexiv**	Carbamazepine Injection	10/7/ 2016	To treat Seizures
8	**Arymo ER**	Morphine sulfate	1/9/ 2017	Pain

FDA BANNED DRUG LIST

SL NO	DRUG	INDICATION	ALERT	DATE
1	TABLET CLONAZEPAM	ANTI-EPILEPTIC	ADDICTION	18/11/16
2	GABAPENTIN	ANTI-EPILEPTIC	RESPIRATORY DEPRESSION	7/11/16
3	TABLET LAMOTRIGINE	ANTI-EPILEPTIC	ATAXIA	6/10/16
4	CAPSULE ETHOSUXIMIDE	ANTI-EPILEPTIC	HIGHER FREQUENCY OF SEIZURE	26/09/16
5	TABLET LEVETIRACETAM	TONIC-CLONIC SEIZURES	ACUTE RENAL FAILURE	1/08/16
6	TABLET.EZOGABINE	ANTICONVULSANT	RETINAL ABNORMALITIES	29/05/16
7	CAPSULE.ZONISAMIDE	ANTICONVULSANT	EOSINOPHILIA	06/04/16

FENTANYL CITRATE

Date of Approval : 12/01/2017
Brand : FENTORA®
Indication : FENTORA is an opioid agonist indicated for the management of breakthrough pain in cancer patients 18 years of age and older who are already receiving and who are tolerant to around-the-clock opioid therapy for their underlying persistent cancer pain.
Limitations of Use :
• Not for use in opioid non-tolerant patients.
• Not for use in the management of acute or postoperative pain, including headache/migraine, or dental pain.
Dosage and administration : Initial dose of FENTORA : 100 mcg.
Individualize dosing based on the severity of pain, patient response, prior analgesic experience, and risk factors for addiction, abuse, and misuse.
No more than two doses can be taken per breakthrough pain episode.
• Wait at least 4 hours before treating another episode of breakthrough pain with FENTORA.
• Place entire tablet in buccal cavity or under the tongue; tablet is not to be split, crushed, sucked, chewed or swallowed whole.
• When opioid therapy is no longer required, consider discontinuing FENTORA along with a gradual downward of other opioids to minimize possible withdrawal effects.
Dosage forms and strengths : Buccal Tablets: 100 mcg, 200 mcg, 400 mcg, 600 mcg, and 800 mcg strengths as fentanyl base.
Mechanism of Action : Fentanyl is an opioid agonist whose principal therapeutic action is analgesia.
Pharmacokinetics :

Absorption

Following buccal administration of FENTORA, fentanyl is readily absorbed with an absolute bioavailability of 65%. The absorption profile of FENTORA is largely the result of an initial absorption from the buccal mucosa, with peak plasma concentrations following venous sampling generally attained within an hour after buccal administration. Approximately 50% of the total dose administered is absorbed transmucosally and becomes systemically available. The remaining half of the total dose is swallowed and undergoes more prolonged absorption from the gastrointestinal tract.

Distribution

Fentanyl is highly lipophilic. The plasma protein binding of fentanyl is 80-85%. The main binding protein is alpha-1-acid glycoprotein, but both albumin and lipoproteins contribute to some extent. The mean oral volume of distribution at steady state (Vss/F) was 25.4 L/kg.

Elimination

Metabolism

The metabolic pathways following buccal administration of FENTORA have not been characterized in clinical studies. The progressive decline of fentanyl plasma concentrations results from the uptake of fentanyl in the tissues and biotransformation in the liver. Fentanyl is metabolized in the liver and in the intestinal mucosa to norfentanyl by cytochrome P450 3A4 isoform. In animal studies, norfentanyl was not found to be pharmacologically active.

Excretion

Disposition of fentanyl following buccal administration of FENTORA has not been characterized in a mass balance study. Fentanyl is primarily (more than 90%) eliminated by biotransformation to N-dealkylated and hydroxylated inactive metabolites. Less than 7% of the administered dose is excreted unchanged in the urine, and only about 1% is excreted unchanged in the feces. The metabolites are mainly excreted in the urine, while fecal excretion is less important. The total plasma clearance of fentanyl following intravenous administration is approximately 42 L/h

Adverse Effects :
Most common (frequency e”10%): nausea, dizziness, vomiting, fatigue, anemia, constipation, edema peripheral, asthenia, dehydration and headache.
Drug Interactions:
Table includes clinically significant drug interactions with FENTORA

Inhibitors of CYP3A4 : Macrolide antibiotics (e.g., erythromycin)	
Clinical Impact:	The concomitant use of FENTORA and CYP3A4 inhibitors can increase the plasma concentration of fentanyl.
Intervention:	If concomitant use is necessary, consider dosage reduction of FENTORA until stable drug effects are achieved.
CYP3A4 Inducers: Rifampin, carbamazepine, phenytoin	
Clinical Impact :	The concomitant use of FENTORA and CYP3A4 inducers can decrease the plasma concentration of fentanyl.
Intervention:	If concomitant use is necessary, consider increasing the FENTORA dosage until stable drug effects are achieved.
Benzodiazepines and Other Central Nervous System (CNS) Depressants : Benzodiazepines	
Clinical Impact:	Increases the risk of respiratory depression, profound sedation, coma, and death.
Intervention:	Reserve concomitant prescribing of these drugs for use in patients for whom alternative treatment options are inadequate. Limit dosages anddurations to the minimum required.
Serotonergic Drugs : Selective serotonin reuptake inhibitors (SSRIs	
Clinical Impact:	serotonin syndrome
Intervention:	If concomitant use is warranted, carefully observe the patient, particularly during treatment initiation and dose adjustment. Discontinue FENTORA if serotonin syndrome is suspected.
Monoamine Oxidase Inhibitors (MAOIs): Phenelzine, tranylcypromine, linezolid	
Clinical Impact:	serotonin syndrome or opioid toxicity (e.g.,respiratory depression, coma)
Intervention:	The use of FENTORA is not recommended for patients taking MAOIs or within 14 days of stopping such treatment

Mixed Agonist/Antagonist and Partial Agonist Opioid Analgesics : Butorphanol,	
Clinical Impact :	May reduce the analgesic effect of FENTORA and/or precipitate withdrawal symptoms.
Intervention :	Avoid concomitant use
Muscle Relaxants	
Clinical Impact :	Fentanyl may enhance the neuromuscular blocking action of skeletal muscle relaxants and produce an increased degree of respiratory depression.
Intervention :	Monitor patients for signs of respiratory depression that may be greater than otherwise expected and decrease the dosage of FENTORA and/orthe muscle relaxant as necessary.
Diuretics	
Clinical Impact :	Opioids can reduce the efficacy of diuretics by inducing the release of antidiuretic hormone.
Intervention :	Monitor patients for signs of diminished diuresis and/or effects on blood pressure and increase the dosage of the diuretic as needed.
Anticholinergic Drugs	
Clinical Impact :	May increase risk of urinary retention and/or severe constipation, which may lead to paralytic ileus.
Intervention :	Monitor patients for signs of urinary retention or reduced gastric motility when FENTORA is used concomitantly with anticholinergic drugs.

Contraindications :

* Opioid non-tolerant patients.
* Management of acute or postoperative pain, including headache/migraine and dental pain.
* Significant respiratory depression.
* Acute or severe bronchial asthma in an unmonitored setting or in absence of resuscitative equipment.
* Known or suspected gastrointestinal obstruction, including paralytic ileus.
* Known hypersensitivity to fentanyl or components of FENTORA

Current trends in medical science

Laser-activated drug a 'leap forward' for prostate cancer treatment

A drug activated by laser light successfully destroys early prostate cancer while avoiding side-effects that commonly occur with surgery, trial results have shown.

The new technique, called vascular-targeted photodynamic therapy (VTP), involves injecting a light-sensitive drug into the bloodstream. The drug is then switched on by laser pulses fired through optical fibres inserted into the prostate.

Each year, more than 46,000 men in the UK are diagnosed with prostate cancer and 11,000 die from the disease. Of 196 men who received the treatment, about half showed no signs of the disease two years later, compared with 13.5% of those given standard care.

Because VTP targets only prostate tumors, it does not cause the long-term problems of impotence and urinary incontinence often associated with radical surgery or radiotherapy, researchers say.

In the investigational studies, it shows that the results are excellent news for men with early localized prostate cancer, offering a treatment that can kill cancer without removing or destroying the prostate. This is truly a huge leap forward for prostate cancer treatment, which has previously lagged decades behind other solid cancers such as breast cancer.

In 1975, almost everyone with breast cancer was given a radical mastectomy, but since then treatments have steady improved and we now rarely need to remove the whole breast. In prostate cancer, we are still commonly removing or irradiating the whole prostate, so the success of this new tissue-preserving treatment is welcome news indeed.

Currently, men with low-risk localized prostate cancer are put under active surveillance, which means monitoring the disease but providing no treatment unless it becomes more severe.

In the trial consisting of 413 men, participants were randomly assigned either to VTP or active surveillance. Only 6% of the VTP group later needed radical treatment, compared with 30% of active surveillance patients. VTP treatment also doubled the average time of cancer progression from 14 months to 28 months.

The trial, reported in the Lancet Oncology journal, was conducted across 47 treatment sites in 10 European countries, most of which were performing VTP for the first time and the fact that the treatment was performed so successfully by non-specialist centres in various health systems is really remarkable.

New procedures are generally associated with a learning curve, but the lack of complications in the trial suggests that the treatment protocol is safe, efficient and relatively easy to scale up. We would also expect the treatment to be far more precise if we repeated it today, as technology has come a long way since the study began in 2011.

Now prostate cancers are being diagnosed by using MRI (magnetic resonance imaging) scans and targeted biopsies, allowing a much more targeted approach to

diagnosis and treatment. This means we could accurately identify men who would benefit from VTP and deliver treatment more precisely to the tumor.

The drug used, WST11, is derived from bacteria at the bottom of the ocean. To survive with very little sunlight, the bugs have evolved to convert light into energy with high efficiency. This property was exploited to develop the drug, a compound that releases destructive tumor-busting free radical molecules when activated by laser light.

With such an approach, we should be able to achieve a significantly higher remission rate than in the trial and send nearly all low-risk localized prostate cancers into remission.

We also hope that VTP will be effective against other types of cancer. The treatment was developed for prostate cancer because of the urgent need for new therapies, but it should be translatable to other solid cancers including breast and liver cancer.

Congratulations....

Dr. K. Krishnakumar, Principal, St. James College of Pharmaceutical Sciences was felicitated at the 50th Annual National Convenion of APTI held at Manipal.

We Acknowledge : The doctors of St. James' Hospital and Taluk Head Quaters Hospital, Chalakudy for their ineraction with the students during ward rounds and queries directed to our Drug Information Centre which in-turn help us to train the students. Their constant support keeps us growing.

Cheif Editor : Dr. K. Krishnakumar **Editorial Board :** Dr. L. Panayappan, Dr. K. Jayaprakash, Mrs. Lincy George, Mrs. Meppil Baby, Mr. Leo Mathew, Mrs. Rosmin Jacob, Mrs. Bincy T. Abraham, Mr. Jerrin Jose, Mrs. Aji Varghese, Dr. Alfet Raju, Mrs. Deepthi C. Denny, Mrs. Happy Thomas, Mrs. Keerthy Ranganadhan, Mrs. Tiny Rose, Dr. Krishnaprabha, Dr. Grace

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Printed at BLM Offset Printers, Aloor - 9567650189