e-ISSN: 2322-0139
p-ISSN: 2322-0120

Research & Reviews: Journal of Pharmacology and Toxicological Studies

Anticancer Drugs used in Treatment of Curing Cancer

Prasanthi D*

Avanti Institute of Pharmaceutical Sciences, Vizianagaram, Andhra Pradesh

Review Article

Received: 04-08-2016

Accepted: 22-08-2016

Published: 28-08-2016

*For Correspondence:

Prasanthi D, Avanthi Institute of Pharmaceutical Sciences, Tel: 7893654534

Email: dvsprasanthi09@gmail.com

Keywords: Bone marrow depressants, Colon cancer, Cervical cancer, Osteo sarcoma

ABSTRACT

Anticancer drugs are defined as drugs which are used for treating of cancer. Cancer can be diagnosed by different methods. Cancer can be cured by anticancer drugs like bone marrow depressants, lymphocytopenia, GIT stomatitis, Anticancer drugs are also known as antineoplastic drugs which are used not only in the form of oral medicine, they can also be given in different forms like immunotherapy, radiotherapy for treatment of tumors and metastatic cancer. Cancer can be cured by different ways they are as follows ayurvedic medicine, homeopathy medicine. Anticancer drugs travel in body and destroys cancer cells and prevents side effects of tumors.

INTRODUCTION

Cancer is defined as proliferation of unwanted material in the body, which leads to accumulation [1] of blood and causes impurity in blood circulation [2]. Tumors are grown in different parts of the body, which leads to death of the patient. Cancer [3] is a slow poison it enters slowly and destroys each and every system in the body. It destroys GIT (Gastro Intestinal Tract).Respiratory [4] system, Circulatory system, excretory [5] system, Nowadays, out of 90 people 70 people are victims of cancer. Mainly females are effected by cancer like breast cancer [6], colon cancer, rectal cancer, uterus cancer, etc.

The living body is made up of cells [7] that develop, proliferate and undergo apoptosis [8] in a systematic manner. In certain cases, unusual behavior [9] of cell is observed, which is termed as neoplasm [10]. Neoplasm or neoplastic refers to the rapid, uncontrolled and abnormal [11] growth of cells or tissues in the body. Neoplastic tumor can be benign or malignant [12]. Benign neoplasm neither grows vigorously nor invades the surrounding body tissues. Thus, benign neoplasm is less fatal, though can kill a person depending on its size. On the other hand, malignant neoplasm has the property of invasion and metastasis [13] Malignant neoplasms are precisely cancerous.

MATERIALS AND METHODS

There are 4 types of anticancer drugs.

A. Alkylating agents
B. Antimetabolites
C. Natural Products
D. Miscellaneous drugs

Alkylating Agents

Alkylating agent is defined as a substance [14] used in cancer treatment that attaches an alkyl [15] group to DNA. DNA contains Adenine, Guanine, Methanine, The alkyl group is attached to the guanine [16] base of DNA, at the number 7 nitrogen atom of the purine ring. Examples of alkylating antineoplastic [17,18] drugs are: Nitrogen mustards, Nitrosoureas, Alkylsulfonates, Ethyleneimines, Triazene, Methyl Hydrazines.

Antimetabolites

Antimetabolite is defined as drug or other substance that is an antagonist [18] interferes with its function in the body, usually by competing for its receptors [19] or enzymes. Among the antimetabolites used as antineoplastic agents are the folic acid [20] analog methotrexate and the pyrimidine [21] analog fluorouracil. The antineoplastic mercaptopurine, an analog [22] of the nucleotide adenine and the purine [23] base hypoxanthine, is a metabolic antagonist of both compounds. Thioguanine [24] another member of a large series of purine analogs, interferes with nucleic acid [25] synthesis. Cytarabine, used in the treatment of acute myelocytic. Leukemia [26] is a synthetic nucleoside that resembles cysteine and kills cells that actively synthesize deoxyribonucleic acid (DNA), apparently by inhibiting the enzyme DNA polymerase [27]. Examples: Methotrexate, Purine antagonists, 5-Fluorouracil and Cytarabibe.

Natural Products

Two types of natural products are used for treatnent of cancer they are plant products and microorganism [28] product. Plant-derived compounds have played an important role in the development of several clinically useful anti-cancer [29] agents. These include vinblastine, vincristine, [30] the camptothecin derivatives, topotecan [31] and irinotecan, etoposide, [32] derived from epipodophyllotoxin, and paclitaxel [33] (taxol).Several promising new agents are in clinical development based on selective activity against cancer-related molecular [34] targets, including flavopiridol [35] and combretast in A4 phosphate.[36] Examples of plant derived products: Vinca alkaloids [37] (Vincristine, Vinblastin), Taxanes (Paclitaxel, Docetaxel) [38], Epipodophyllotoxins (Etoposide) [39]. Microorganisms are antibiotics [40] and enzymes [41].

Miscellaneous Drugs

Miscellaneous drugs [42] are those drugs which are utilised for curing cancer. Examples are hydroxyurea , Rituximab, Leucovorin, Pamidronate, Gemcitabine, Zoledronic acid, Bortezomib, etc.[43-49].

METHODS FOR CANCER TREATMENT

There are different methods for treatment of cancer

A. Biopsy
B. Endoscopy
C. Diagnostic Imaging
D. Blood Tests
E. Barium enema
F. Barium swallow or X-ray
G. Bone marrow Aspiration
H. Bone scan
I.

Biopsy

A biopsy is the removal of a sample of tissue [50] or cells so that they can be examined by a pathologist [51], usually under a microscope [52] When a whole lump or targeted [53] area is removed surgically, it is called an Excisional biopsy [54] When just a sample of tissue is removed, the procedure is called an Incisional biopsy [55].

Endoscopy

Endoscopy is defined as a method which is used to examine interior of hollow [56,57] organ or cavity of the body. Endoscopy is examined mostly for oesophagus, stomach and intestine [58,59]. It is often less preferred by physicians.

e-ISSN: 2322-0139
p-ISSN: 2322-0120

Diagnostic Imaging

Diagnostic imaging is defined as a method used to diagnose cancer or tumor in the body organs [60] This method describes about capturing of images [61] by combining multiple imaging technologies such as mammography [62]. Computerized tomography [63] is defined as method describes the contrast [64] to enhance the image quality.

Blood Tests

Some tumors [65] release substances called tumor markers, which can be detected in the blood [66]. A blood test for prostate [67] cancer, for example, determines the amount of prostate specific antigen [68] (PSA). High PSA levels can indicate cancer. Tumor converts pure blood into impure blood which effects circulatory system [69].

Barium Enema

Barium enema is a lower gastrointestinal (GI) examination [70] An X-ray is taken of large intestine (colon and rectum), and a contrast material containing barium is inserted into anus, which results an clear image in X-ray.

Barium Swallow or X-ray

Barium swallow is defined as a test that uses X-ray to examine how food moves down your oesophagus to your stomach. After you drink barium the barium coats your oesophagus, stomach, and small intestine so they show up clearly on the X-ray.

Bone Marrow Aspiration

Bone marrow aspiration is defined as a process or method which describes the removal of small amount of bone marrow fluid [71]. The fluid is then injected to bone through a needle [72].

Bone Scan

It is defined as a method which describes about a nuclear [73] test that identifies and locates new areas of bone growth or breakdown. Cancer effects bone in the body which results in the formation of tumors or proliferation [74] of bone growth. Bone scan is mostly preferred by physician, it is a quick and rapid process.

DOSAGE FORMS

Anticancer drugs are administrated into body by different dosage forms. Drugs can be administrated through 3 methods, there are as follows

A. Injections
B. Tablets
C. Capsules

Injections

Injection is defined as a fluid [75] is administrated forcely into the body which cures or prevents the growth of tumor or any proliferated part in the body. They are administrated through intramuscular, intravenous [76,77] Examples of injections are Cyclophosphamide Injection, Methotrexate Injection, Fluorouracil Injectrion, Cisplatin Injection, Carboplatin Injection, Paclitaxel Injection, Etoposide Injection, Oxaliplatin Injection, Octreotide Injection [77-86].

Tablets

Tablets are defined as a solid dosage form which are administrated through oral cavity like mucosal cavity and buccal cavity [86-89]. Tablets show most rapid and quick response. Examples of tablets are Tamoxifen Citrate tablets, Methotrexate tablets, Bicalutamide tablets, Anastrozole tablets, Letrozole tablets, Gefitinib tablets, Flutamide tablets, etc [90-93].

Capsules

Capsule is defined as a solid dosage form in which the drug is enclosed in a hard or soft soluble container, usually of a form of gelatine. Capsules [94] are administrated buccal cavity, oral cavity, etc. Examples of capsules are hydroxyurea Capsules, Imatinib Capsules, Temozolomide [95] Capsules, and Etoposide Capsules.

CONCLUSION

I would like to conclude that anticancer or antineoplastic drugs are utilised to cure and prevent cancer. Cancer can be cured by Ayurveda [96] and homeopathy medicine. Natural derivatives play an important role to prevent cancer. Marine floras are the important source of anticancer drugs. Cancer can be cured by natural and synthetic drugs [97]. Cancer is communicable disease which can affect population in a region. Due to global warming, malnutrition [98] and various environmental conditions leads to increase in cancer. Prevention is better than cure cancer should be prevented by giving awareness among people in rural as well as urban areas. Prevention can be done by taking precautionary measures, which will be helpful for decrease count of cancer patients in India. Cancer is a disease which starts slowly and spreads throughout body and it causes many side effects like nausea, vomiting, fatigue, Anemia, lymphedema, etc [99,100].

REFERENCES

1. El-Shafei HM. Bioaccumulation of Hexavalent Chromium in Tissues of a Freshwater Fish. Biochem Anal Biochem. 2016;5:272.
2. Plocoste T, et al. Effect of Leachate Recirculation on Landfill Methane Production in a Tropical Insular Area. Innov Ener Res. 2016;5:138.
3. Lorant K, et al. Rectal Cancer and Invasion of Veins: Importance in TNM Staging 2. J Blood Lymph 2016;6:144.
4. Boivin G, et al. DAS181 Blocks Respiratory Syncytia Virus Infection of Hep-2 Cells. J Antivir Antiretrovir. 2016;8:68-71.
5. Waghmare P, et al. Excretory Secretory Proteins Released during Growth of Mycobacterium tuberculosis (H37Ra), With Diagnostic Potential in Pulmonary and Extra Pulmonary Tuberculosis . Mycobact Dis. 2016;6:215.
6. Naeini EE, et al. The Effectiveness of Stress Management Training on Hardiness in Patients with Breast Cancer. Abnorm Behav Psychol. 2016:2:115.
7. Ma J, et al. Leukocyte Interferon-α-n3 Inhibits Influenza A Viral Replication in Human Alveolar Epithelial A549 Cells. J Antivir Antiretrovir. 2015;7:104-107.
8. Zhang J, et al. ClC-3 is Involved in NPPB-Induced Apoptosis in DU145 Prostate Cancer Cells. J Mol Biomark Diagn. 2016:S2:018
9. Alshehri A. Social and Behavioral Determinants of Early Childhood Caries in the Aseer Region of Saudi Arabia. Pediatr Dent Care 2016:1:114.
10. Makhoul E, et al. Primary Gallbladder and Rectal Neoplasms: Rare Synchronous Digestive Tumors. J Gastrointest Dig Syst. 2016:6:435.
11. Bandara W, et al Development of Cytogenetic Abnormalities in Myelodysplastic Syndromes. J Mol Genet Med. 2016:10:217.
12. D'Angelo G, et al. An Unusual and Malignant Intussusception in Children. Gen Med (Los Angel). 2016;4:248.
13. Chen Y, etal. Hepatic Epithelioid Hemangioendothelioma with Cecal Metastasis in a Natural Course: A Case Report. J Cytol Histol. 2016;7:398.
14. von Hentig N. Potential Drug Interactions Between cART and New Psychoactive Substances. J Antivir Antiretrovir 2016;8:LXIV-LXVIII.
15. Machadoa KS and Froehnerb S. Effect of the Little Ice Age on Climate and Vegetation Recorded by n-Alkanes and Glycerol Dialkyl Glycerol Tetraether Proxies. 2016;7:331.
16. Mulder CJJ, et al. Drug Rediscovery: Preventing Off-label Prescription and Reducing Health Care Costs: The Case of Thioguanine in the Netherlands. J Gastrointest Dig Syst. 2015;5:249.
17. Polo F and Toffoli G. Point-of-Care for Therapeutic Drug Monitoring of Antineoplastic Drugs. Med chem (Los Angeles). 2016;6:e108.
18. Alarfaj N and El-Tohamy MF. A Novel Capillary Zone Electrophoresis Method for Simultaneous Separation and Determination of Nalbuphine Hydrochloride and its Related Antagonist Compounds. J Chromatogr Sep Tech. 2016;7:318.

19. Kapadia N and Harding W. Aporphine Alkaloids as Ligands for Serotonin Receptors. Med chem (Los Angeles) 2016;6:241-249.
20. Bukhari AA, et al. The Awareness of Folic Acid Supplements among Women of Childbearing Age in King Abdulaziz University Hospital, Jeedah – Saudi Arabia. J Nurs Care 2016;5:346.
21. Roy S, et al. Report of Interaction Between Calf Thymus DNA and Pyrimidine-Annulated Spiro-Dihydrofuran. Biochem Anal Biochem 2016;5:278.
22. Pandey S and Singh B. Analog Multiplier Based Single Phase Power Measurement. J Electr Electron Syst 2016;5:183.
23. Sjodin B and Mannervik B. Blood-Brain-Barrier-Penetrating 6-Halogenopurines Suitable as Pro-Probes for Positron Emission Tomography are Substrates for Human Glutathione Transferases. J Pharma Reports 2016;1:114.
24. Mulder CJJ, et al. Drug Rediscovery: Preventing Off-label Prescription and Reducing Health Care Costs: The Case of Thioguanine in the Netherlands. J Gastrointest Dig Syst. 2015;5:249.
25. Kaihatsu K, et al. Future Perspective of Nucleic Acid-based Detection of Dengue Virus and its Serotypes. J Antivir Antiretrovir 2016;8:LXIX-LXXII.
26. Dogan S, et al. Comparison of MLL Fusion Genes Expression among the Cytogenetics Abnormalities of Acute Myeloid Leukemia and Their Clinical Effects. J Biom Biostat. 2016;7:312.
27. Salah S. A Novel Approach for Treatment Patients with Multiple Sclerosis by Using DNA Polymerase. J Alzheimers Dis Parkinsonism. 2016;6:235.
28. Nwidi IC and Agunwamba JC. Kinetics of Biosorption of Three Heavy Metals by Five Free Microorganisms. J Bioremed Biodeg. 2016;7:339.
29. Patel BD, et al. Quantification of Newer Anti-Cancer Drug Clofarabine in their Bulk and Pharmaceutical Dosage Form. J Chromatogr Sep Tech. 2016;7:328.
30. Bhardwaj HC, etal. Antioxidative and Anti-Inflammatory Potentials of Ambroxol in Ameliorating Vincristine Induced Peripheral Neuropathic Pain in Rats. J Neuroinfect Dis. 2016;7:202.
31. Meisenberg C, et al. TDP1/TOP1 Ratio as a Promising Indicator for the Response of Small Cell Lung Cancer to Topotecan. J Cancer Sci Ther. 2014;6:258-267.
32. Kamble P, etal. Ultrastructural and Antioxidant Studies of Etoposide Treated Kidney of Rat. J Cancer Sci Ther. 2013;5:137-141.
33. Kong KV, et al. Dual Trigger Crosslinked Micelles Based Polyamidoamine for Effective Paclitaxel Delivery. J Nanomed Nanotechnol. 2014;5:212.
34. Aktug H, et al. Investigation of the Cell Stabilization and the Epithelial to Mesenchymal Transition Effect of Flavopiridol in Mouse Lung Squamous Cell Carcinoma. Chemo Open Access. 2015;4:171.
35. Firoj KM, et al. Myocardial Protective Effect of Exogenous Creatine Phosphate in Children Undergoing Open Heart Surgery. J Clin Exp Cardiolog. 2016;7:450.
36. Aly Torky. Z Vitamin B Mediated Priming of Disease Resistance and Defense Responses to Tobacco Mosaic Virus in Capsicum annuum L. Plants. J Antivir Antiretrovir. 2016 ;8:035-053.
37. Kapadia N and Harding W. Aporphine Alkaloids as Ligands for Serotonin Receptors. Med chem (Los Angeles). 2016;6:241-249.
38. Hara F, et al. Randomized, Optimal Dose Finding, Phase Ii Study of Tri-Weekly Nab-Paclitaxel in Patients with Metastatic Breast Cancer (ABROAD). J Clin Trials. 2016;6:267.
39. Shabana S, et al. The Efficacy of Etoposide on H9c2 Cardiomyoblasts Against Doxorubicin Induced Cardiotoxicity. Anat Physiol. 2015;5:186.
40. Boamah VE,et al. Antibiotic Practices and Factors Influencing the Use of Antibiotics in Selected Poultry Farms in Ghana. J Antimicro. 2016;2:120.
41. Razi R, et al. Naturally Occurring Enzyme Inhibitors: A Smart Way to Fight against Micro-Inflammation in Human Gut. Interdiscip J Microinflammation. 2015;3:131.
42. Ceron-Carrasco JP, et al. Application of Computational Drug Discovery Techniques for Designing New Drugs against Zika Virus. Drug Des. 2016;5:e131.
43. Al-Anazi KA. HydroxyureaTherapy in Patients with Sickle Cell Disease. Transl Med 2015;5:145.
44. Kelleni MT. Rituximab: Is it Possible to Link Both Autoimmune Haemolytic Anemia and Aplastic Anemia Regarding the Etiology and Management?. Gen Med (Los Angeles) 2016;4:e110.
45. Kelleni MT Rituximab: Is it Possible to Link Both Autoimmune Haemolytic Anemia and Aplastic Anemia Regarding the Etiology and Management?. Gen Med (Los Angeles). 2016;4:e110.
46. Azmy AM, et al. Infusional Fluorouracil, Leucovorin, Oxaliplatin, and Irinotecan (FOLFOXIRI) Compared with Infusional Fluorouracil, Levcovorin, and Irinotecan (FOLFIRI) as First- Line Treatment for Metastatic Colorectal Cancer. J Cell Sci Ther. 2012;3:125.
47. Maute L,etal. The Dual PI3K/mTOR Inhibitor NVPBEZ235 Enhances the Antitumoral Activity of Gemcitabine in Human Pancreatic Cancer Cell Lines. J Integr Oncol. 2015;4:133.

48. Chen JY. Recalcitrant Hyperkalaemia Associated with a Single Dose Administration of Zoledronic Acid for Treatment of Post-Menopausal Osteoporosis . J Osteopor Phys Act. 2013;1:105.
49. Couderc AL, et al. Prognostic Factors in Elderly Patients with Multiple Myeloma Treated with Weekly Bortezomib. J Integr Oncol. 2016;5:162.
50. Goldenitsch E. An Uncommon Cause of Soft Tissue Mass of the Extremities, Report of 2 Cases and Review of Literature of Cystic Echinococcosis. Primary Health Care. 2016;6:225.
51. Byrd CT, et al. Speech-Language Pathologists' Perception of Bilingualism as a Risk Factor for Stuttering. Commun Disord Deaf Stud Hearing Aids. 2016;4:158.
52. Shields B, et al. Microscopes and Mass Spectrometers. J Proteomics Bioinform. 2016;S10:e001.
53. Langdon SP. HER2-Targeted Antibody Treatment for Ovarian Cancer – Future Opportunities. J Mol Pharm Org Process Res. 2016;4:e125.
54. Mamone L and Wang H. Emerging Markers from Molecular Studies: Application into Routine Salivary Gland Fine Needle Aspiration Biopsy Practice. J Clin Exp Pathol. 2016;6:e122.
55. Ghoshal B and Bhattacharya SK. Strangulated Incisional Hernia. J Mol Imag Dynamic. 2016;6:i102
56. Pasco JA, et al. Low Lean Tissue Mass and Physical Performance as Markers of Sarcopenia in Older Men and Women. J Gerontol Geriatr Res. 2016;5:306.
57. Elmesiry AM, et al. Pentosan Polysulfate as a Disease Modifier of Cartilage Degeneration in Experimental Osteoarthritis. J Arthritis. 2016;5:199.
58. Yeap SHA, et al. Failed Seldinger Technique Deployment of SEMS in Stenosing Mid-Body Stomach Cancer: Overcoming the Problem. Med Rep Case Stud. 2016;1:110.
59. Chac D and William DePaolo R. The Dynamic Microbial Landscape of the Intestine and its Impact on Probiotic Therapy. J Prob Health. 2016;4:137.
60. Salma Chowdhury DU, et al. Protective Effect of Spirodela polyrhiza on Various Organs of Arsenicinduced Wistar Albino Rats. J Cytol Histol. 2016;7:410.
61. Chen J. National Detection of the Illegal Use of Forest Land in Taiwan by Using Multi-Temporal FORMOSAT-2 Satellite Images. J Earth Sci Clim Change. 2016;7: 352.
62. Sidaoui JA. Screening Mammography Outcomes in One Community-Based Initiative in Lebanon. J Community Med Health. 2016;6: 428.
63. Wang Y, et al. Evaluation of Progression of Ossification of Ligamentum Flavum in the Thoracic Spine Using Computed Tomography. J Spine. 2016;5:306.
64. Rastogi R, et al. Can Postcontrast-T2FLAIR be a Boon over Postcontrast-T1GRE Images in MR Brain Imaging?. J Neuroinfect Dis. 2016;7:219.
65. Makhoul E, et al. Primary Gallbladder and Rectal Neoplasms: Rare Synchronous Digestive Tumors. J Gastrointest Dig Syst. 2016;6:435.
66. Carr BI, et al. An HCC Aggressiveness Index and Blood GTP, Bilirubin and Platelet Levels. J Integr Onco.l 2016;5:172.
67. Nna EO, et al. Allelic Variants of KLK2 Gene Predict Presence of Prostate Cancer at Biopsy. J Cancer Diagn. 2016;1:105.
68. Pugholm LH, et al. Antibody-Mediated Delivery of Antigen to Dendritic Cells. Immunother Open Acc .2016;2:119.
69. Ortega-Deballon I. Programmes for Uncontrolled donation after Circulatory Death: Clinical, Ethical and Legal Benchmarks. Health Care Current Reviews. 2015;3:135
70. Sur Genel, et al. Upper Gastrointestinal Bleeding Treatment in Children - A Difficult Challenge for the Doctor. Pharm Anal Acta. 2016;7:e186.
71. Khallaf FG and Kehinde EO. The Effect of Serum from Acute Traumatic Brain or Spinal Cord Injury Patients on the Growth of Human Bone Marrow- Derived Mesenchymal Stem Cells. J Trauma Treat 2016;5:299.
72. Imbelloni LE, et al. The Incidence of Paresthesia and Neurologic Complications after Lower Spinal Thoracic Puncture with Cut Needle Compared to Pencil Point Needle. Study in 300 Patients. J Anesthe Clinic Res. 2010;1:106.
73. Chihaoui N, et al. A New Mononuclear Complex: Structure, Vibrational (FT-IR and Raman), Hirshfeld Surfaces Analysis, Electrical Properties and Equivalent Circuit. J Phys Chem Biophys. 2016;6:216.
74. Shruthi PJ, et al. Nucleolar Organizer Region Count, PCNA and Ki-67 Indices are Diagnostic Markers of Malignancy and Cell Proliferation Rate in Bovine Lymphosarcoma. J Veterinar Sci Technol. 2016;7:305.
75. Hipolito C, et al. Concentration of the CS-846 Epitope in Serum and Synovial Fluid of Horses with Different Grades of Osteochondral Fragments in the Carpal Joints. Gen Med (Los Angeles). 2016;4:242.
76. Theofiles M, et al. Intramuscular Ceftriaxone with Oral Antibiotic Therapy in the Treatment of Outpatient Cellulitis. J Infect Dis Ther. 2016;4:284.

77. Wang NH, et al. The Influence of GSTA1 Polymorphism to the Response to Intravenous Cyclophosphamide Therapy in the Lupus Nephritis Patients. Lupus Open Access. 2016;1:115.
78. Manipol-Larano RJT, et al. Effect of Methylprednisolone and Cyclophosphamide on the Survival of Patients with Leptospirosis, Renal Failure and Pulmonary Hemorrhage. Trop Med Surg. 2014;2:171.
79. Mitrovic D, et al. Treatment of High Dose Methotrexate Toxicity with Glucarpidase . J Clin Toxicol. 2016;6:293.
80. Chinnathambi S, et al. Underlying the Mechanism of 5-Fluorouracil and Human Serum Albumin Interaction: A Biophysical Study. J Phys Chem Biophys. 2016;6:214.
81. Slotman GJ. Simultaneous Fractionated Cisplatin and Radiation Therapy in the Treatment of Advanced Operable Stage III and IV Squamous Cell Carcinoma of the Oral Cavity and Pharynx. Otolaryngol (Sunnyvale). 2015;6:215.
82. Tiong FL, et al. Cardiac Failure Caused by the Association of Carboplatin and Gemcitabine Chemotherapy in a Patient with Metastatic Urothelial Cancer: A Case Report. J Clin Case Rep. 2015;5:670.
83. Hara F, et al. Randomized, Optimal Dose Finding, Phase Ii Study of Tri-Weekly Nab-Paclitaxel in Patients with Metastatic Breast Cancer (ABROAD). J Clin Trials. 2016;6:267
84. Shabana S, et al. The Efficacy of Etoposide on H9c2 Cardiomyoblasts Against Doxorubicin Induced Cardiotoxicity. Anat Physiol. 2015;5:186.
85. Recchia F. Long-term Follow-up of Pegylated Liposomal Doxorubicin and Oxaliplatin in Recurrent Ovarian Cancer. J Integr Oncol 2016;5:166.
86. Saito M, et al. High Dose Octreotide for the Treatment of Chylothorax in Three Neonates. J Neonatal Biol. 2016;5:218.
87. Vargas H, et al. Identification of Human Papilloma Virus (HPV) in the Oral Cavity of Asymptomatic Colombian Men. Mol Biol. 2015;4:144.
88. Li Q, et al, A Case Report of Mimicking Sub mucosal Tumor on Esophageal Tuberculosis. J Vasc Med Surg. 2016;4:268.
89. Albasheer F and Elamin EM. Nuclear Anomalies in Exfoliated Buccal Epithelial Cells of Shoe Workers in Khartoum State. J Cytol Histol. 2016;7:411.
90. Liszkowska J, et al. Thermal Properties of Polyurethane-Polyisocyanurate (PUR-PIR) Foams Modified with Tris(5-Hydroxypenthyl) Citrate. J Adv Chem Eng. 2016;6:148.
91. Lo CY, et al. Female Gender and Hispanic Ethnicity are Associated with Increased Risk of Subacute Methotrexate Encephalopathy. Toxicol open access. 2015;1:104.
92. Kim B, et al. Liquid Chromatography Tandem Mass Spectrometry Determination of Bicalutamide in Human Plasma and Application to a Bioequivalence Study. J Bioanal Biomed. 2011;3:098-102.
93. Jana SK, et al. Letrozole and Curcumin Loaded-PLGA Nanoparticles: A Therapeutic Strategy for Endometriosis. J Nanomedine Biotherapeutic Discov. 2014;4:123.
94. Zheng Y, et al. Qualitative and Quantitative Analysis of Dan-Deng-Tong-Nao Capsules by HPLC-DAD-MS/MS. Mass Spectrom Purif Tech. 2016;2:110.
95. Hicks J, et al. Clinical, Imaging and Pathological Characteristics of Brain Implanted Polylactic Co-Glycolic Acid Polymers Conjugated with Temozolomide. J Veterinar Sci Techno. 2016;7:325.
96. Annambhotla S, Ayurveda: The Emerging Integrative Healing System in the West. J Tradi Med Clin Natur. 2016;5:e120.
97. Newton AMJ, et al. Fabrication and Evaluation of Fast Disintegrating Oral Hybrid Films of Propranolol Hydrochloride by Using Pectin and Synthetic Polymers. J Dev Drugs. 2016;5:157.
98. Osman AH. Protein Energy Malnutrition and Susceptibility to Viral Infections as Zika and Influenza Viruses. J Nutr Food Sci. 2016;6:489.
99. AlJabari A and Massad I. Post-Operative Nausea, Vomiting and Pain Score in Post Anesthesia Care Unit (PACU) at Jordan University Hospital. J Anesth Clin Res. 2016;7:595.
100. Uzuncakmak TU, et al. A typical Rhabdoid Teratoid Tumour and Localized Lymphedema in an Infant. Pediat Therapeut. 2015;5:247.