**Studies with reports of febrile neutropenia with docetaxel use**

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| **Population** | **n** | **Cancer type** | **Treatment**  | **Docetaxel dose (mg/m2/3weeks)** | **FN rate** | **Remarks** | **Ref** |
| European | 4950 | breast | Doxorubicin + cyclophosphadmide then paclitaxel or docetaxel | 100-105 | 16% |   | (1) |
| European | 1010 | breast | Docetaxel + FEC or vinorelbine + FEC, +/- trastuzumab | 100 | 23% (no trastuzumab), 29.6% (with trastuzumab) |   | (2) |
| Chinese | 47 | NSCLC | Docetaxel alone  | 75 | 41.70% |  | (3) |
| Caucasian | 43 | NSCLC | Docetaxel + carboplatin | 75 | 18.60% |   | (4) |
| Asian | 23 | 39.10% | carboplatin dose had to be reduced after first 6 S'pore patients |
| Chinese | 102 | NSCLC | Docetaxel vs. pemetrexed | 75 | 27.6% (grade 3-4 neutropenia) |  | (5) |
| Mixed (86% Caucasian) | 72 | NSCLC | Docetaxel + carboplatin | 75 | 8.30% | (6) |
| Greek | 43 | NSCLC | Docetaxel + gemcitabine | 100 | 14.00% | G-CSF given | (7) |
| Mixed (85% Caucasian) | 506 | breast | Docetaxel + cyclophosphamide | 75 | 5.00% |   | (8) |
| Chinese | 59 | breast | Docetaxel alone | 100 | 14% |   | (9) |
| Chinese | 28 | soft tissue sarcoma | Gemcitabine + docetaxel | 75 | 4% |   | (10) |
| Chinese | 32 | gastric or GEJ | Docetaxel + cisplatin + 5FU | 60 | 13% |   | (11) |
| Chinese | 43 | NSCLC | Docetaxel + carboplatin | 105 | 2% |   | (12) |
| Chinese | 92 | breast | Docetaxel + capecitabine/ epirubicin | 75 | 2-11% |   | (13) |
| Chinese | 30 | gastric | Docetaxel + oxaliplatin + capecitabine | 75 | 30% |   | (14) |
| Asian (mixed, S'pore) | 159 | breast | Docetaxel + cyclophosphamide | 75 | 6% | with G-CSF | (15) |
| 25% | no G-CSF |
| Chinese | 48 | gastric | Docetaxel + oxaliplatin | 60 | 7% | grade 3 FN | (16) |
| Indian (Mumbai) | 31 | esophageal & GEJ | Docetaxel + cisplatin + 5FU | 75 | 39% | retrospective analysis | (17) |
| Indian (New Delhi) | 96 | breast | DEC or FEC + docetaxel | 75 or 85 | 15% | retrospective analysis | (18) |
| Indian (Mumbai) | 59 | Hypo-pharyngeal | Cisplatin + docetaxel +/- 5FU | 75 | 4% | retrospective analysis | (19) |
| Indian (Mumbai) | 123 | oral cavity | Cisplatin + docetaxel +/- 5FU | 75 | 3.1% (2 drugs), 34.6% (3 drugs) | retrospective analysis | (20) |
| Indian (Jaipur) | 44 | Head & neck | Cisplatin + docetaxel +/- 5FU x 2-3cycles then weekly cisplatin + RT | 75 | 13.6% (during induction) | retrospective analysis | (21) |
| Chinese | 32 | breast | docetaxel/doxorubicin vs. docetaxel + ketoconazole | 75 | 77% | data for conventional arm only, these are grade 4 neutropenia rates, not FN | (22) |
| Malays | 14 | 57% |
| Indians | 4 | 75% |

FN: febrile neutropenia, Ref: reference: FEC: fluorouracil + epirubicin + cyclophosphamide, S’pore: Singapore, NSCLC: non small cell lung cancer, G-CSF: granulocyte-colony stimulating factor, DEC: docetaxel + epirubicin + cyclophosphamide, GEJ: gastroesophageal junction, 5FU: fluorouracil, RT: radiotherapy

**References**

1. Sparano JA, Wang M, Martino S, Jones V, Perez EA, Saphner T, et al. Weekly paclitaxel in the adjuvant treatment of breast cancer. N Engl J Med. 2008;358:1663–71.

2. Joensuu H, Kellokumpu-Lehtinen P-L, Bono P, Alanko T, Kataja V, Asola R, et al. Adjuvant docetaxel or vinorelbine with or without trastuzumab for breast cancer. N Engl J Med. 2006;354:809–20.

3. Perng RP, Shih JF, Chen YM, Chou KC, Lee YC, Tsai CM. A phase II study of single-agent docetaxel chemotherapy for non-small cell lung cancer. Jpn J Clin Oncol. 2000;30:429–34.

4. Millward MJ, Boyer MJ, Lehnert M, Clarke S, Rischin D, Goh B-C, et al. Docetaxel and carboplatin is an active regimen in advanced non-small-cell lung cancer: a phase II study in Caucasian and Asian patients. Ann Oncol. 2003;14:449–54.

5. Li R, Sun L, Wang J, Qian J, Wang Z, Jiao X. Pemetrexed versus docetaxel in second line non-small-cell lung cancer: Results and subsets analyses of a multi-center, randomized, exploratory trial in Chinese patients. Pulm Pharmacol Ther. 2012;25:364–70.

6. Socinski MA, Raju RN, Stinchcombe T, Kocs DM, Couch LS, Barrera D, et al. Randomized, Phase II Trial of Pemetrexed and Carboplatin with or without Enzastaurin versus Docetaxel and Carboplatin as First-Line Treatment of Patients with Stage IIIB/IV Non-small Cell Lung Cancer. J Thorac Oncol. 2010;5:1963–9.

7. Kosmas C, Tsavaris N, Vadiaka M, Stavroyianni N, Koutras A, Malamos N, et al. Gemcitabine and docetaxel as second-line chemotherapy for patients with nonsmall cell lung carcinoma who fail prior paclitaxel plus platinum-based regimens. Cancer. 2001;92:2902–10.

8. Jones SE, Savin MA, Holmes FA, O’Shaughnessy JA, Blum JL, Vukelja S, et al. Phase III trial comparing doxorubicin plus cyclophosphamide with docetaxel plus cyclophosphamide as adjuvant therapy for operable breast cancer. J Clin Oncol. 2006;24:5381–7.

9. Yip AYS, Chow LWC. Clinical experience with docetaxel for Chinese breast cancer patients: hematological toxicity profiles. Breast Cancer. 2006;13:192–6.

10. Yao Z, Yang S, Zhao Y, Yao S, Guo H, Liu Y. [Efficacy and safety of fixed dose rate gemcitabine infusion in combination with docetaxel in patients with relapsed/refractory soft tissue sarcoma]. Zhonghua Zhong Liu Za Zhi. 2014;36:541–5.

11. Meng C, Yin H, Sun Z, Zhou J, Chen S, Bai C, et al. Adjuvant Chemotherapy with Docetaxel, Cisplatin, and Continuous-Infusion 5-Fluorouracil for Gastric Cancer: A Phase II Study. Transl Oncol. 2014;7:277–83.

12. Jiang H, Zhang X, Chen J, Zhang L, Xiong J, Zhong L, et al. A study of weekly docetaxel and carboplatin as first-line chemotherapy for advanced non-small cell lung cancer. J Thorac Dis. 2014;6:79–85.

13. Yang B, Yang J, Shi W, Liu H, Zhu Y, Fang P, et al. [Clinical paired study of comparing docetaxel plus capecitabine versus docetaxel plus epirubicin as first-line treatment in women with HER-2 negative advanced breast cancer]. Zhonghua Yi Xue Za Zhi. 2013;93:1397–400.

14. Liu Y, Ma T, Ye Z, Zhang J, Zhu Z. [Efficacy and safety evaluation of docetaxel plus oxaliplatin and capecitabine in the treatment of advanced gastric adenocarcinoma: a single center non-controlled phase II clinical trial]. Zhonghua Wei Chang Wai Ke Za Zhi. 2010;13:177–80.

15. Chan A, Fu WH, Shih V, Coyuco JC, Tan SH, Ng R. Impact of colony-stimulating factors to reduce febrile neutropenic events in breast cancer patients receiving docetaxel plus cyclophosphamide chemotherapy. Support Care Cancer. 2011;19:497–504.

16. Zhong H, Zhang Y, Ma S, Ying J-E, Yang Y, Yong D, et al. Docetaxel plus oxaliplatin (DOCOX) as a second-line treatment after failure of fluoropyrimidine and platinum in Chinese patients with advanced gastric cancer. Anticancer Drugs. 2008;19:1013–8.

17. Noronha V, Joshi A, Jandyal S, Jambhekar N, Prabhash K. High pathologic complete remission rate from induction docetaxel, platinum and fluorouracil (DCF) combination chemotherapy for locally advanced esophageal and junctional cancer. Med Oncol. 2014;31:188.

18. Gogia A, Raina V, Deo SV, Shukla NK, Mohanti BK, Sharma DN. Taxane and anthracycline based neoadjuvant chemotherapy for locally advanced breast cancer: institutional experience. Asian Pac J Cancer Prev. 2014;15:1989–92.

19. Joshi P, Patil V, Joshi A, Norohna V, Chaturvedi P, Chaukar D, et al. Neo-adjuvant chemotherapy in advanced hypopharyngeal carcinoma. Indian J Cancer. 50:25–30.

20. Patil V, V N, A J, VK M, S G, B B, et al. Induction chemotherapy in technically unresectable locally advanced oral cavity cancers: Does it make a difference? Indian J Cancer. 2013;50:1.

21. Somani N, Goyal S, Pasricha R, Khuteta N, Agarwal P, Garg AK, et al. Sequential therapy (triple drug-based induction chemotherapy followed by concurrent chemoradiotherapy) in locally advanced inoperable head and neck cancer patients - Single institute experience. Indian J Med Paediatr Oncol. 2011;32:86–91.

22. Lim Y-W, Goh B-C, Wang L-Z, Tan S-H, Chuah BYS, Lim S-E, et al. Pharmacokinetics and pharmacodynamics of docetaxel with or without ketoconazole modulation in chemonaive breast cancer patients. Ann Oncol. 2010;21:2175–82.