**Supplementary Table S1**

**Table S1**. Anticancer therapies associated with CV complications or toxicities

|  |  |  |  |
| --- | --- | --- | --- |
| **Anticancer agents** | **Cancer use** | **Type of cardiotoxicity** | **Frequency** |
| **Anthracyclines** | | | |
| Doxorubicin [1, 2] | Breast, sarcoma,  lung, bladder,  gastric,  prostate,  leukaemia,  lymphoma,  others | HF  LVD  Arrhythmia | Common |
| Epirubicin [3] | Breast,  oesophageal,  gastric | HF  LVD  Arrhythmia | Common |
| **Alkylating agents** | | | |
| Cyclophosphamide [4] | Breast,  lymphoma,  myeloma,  sarcoma, SCT | HF  LVD  Myopericarditis  Arrhythmia | Uncommon |
| Ifosfamide [5, 6] | Testicular,  sarcoma,  lymphoma | HF  LVD  Myopericarditis  Arrhythmia | Common |
| Cisplatin [7, 8] | Lung, bladder,  testicular,  breast,  oesophageal,  head and  neck | Arrhythmia  Ischaemia  VTE  HTN | Uncommon  Common |
| Melphalan [9, 10] | MM, ovarian,  neuroblastoma,  SCT | Arrhythmia  LVD | Common  Rare |
| **Antimetabolites** | | | |
| Fluorouracil [11-15] | Colon, pancreatic,  breast, head and  neck | Coronary  vasospasm  Ischaemia  Arrhythmia  LVD  Myocarditis | Common  Uncommon  Rare |
| Capecitabine [16, 17] | Breast, colon,  gastric,  pancreatic | Coronary  vasospasm  Ischaemia  Arrhythmia  LVD | Common  Uncommon |
| Fludarabine [18, 19] | Lymphoma,  leukaemia, SCT | Angina  Ischaemia  Arrhythmia  LVD | Uncommon |
| Decitabine [20] | MDS | HF  LVD | Uncommon |
| **Antimicrotubule agents** | | | |
| Docetaxel [21, 22] | Breast, lung, prostate,  gastric, head and  neck | HF  LVD  Arrhythmia | Uncommon |
| Paclitaxel [23-25] | Breast, ovarian, lung,  sarcoma, bladder,  cervical, gastric,  oesophageal,  head and neck | Ischaemia  Bradyarrhythmia | Rare |
| Vinblastine [26-28] | Lymphoma, testicular,  lung, melanoma | Ischaemia  Arrhythmia | Rare |
| **Monoclonal antibodies** | | | |
| Rituximab [29]  Ofatumumab [30]  Alemtuzumab [31] | Lymphoma,  leukaemia | Hypotension  (infusion  reaction)  HTN  LVD  HF | Common  Uncommon |
| **Monoclonal antibodies (HER2)** | | | |
| Bevacizumab [32-34] | Colorectal, cervical,  glioblastoma,  ovarian, renal,  endometrial,  sarcoma, breast | HTN  VTE  ATE  Myocardial  ischaemia  LVD | Common  Uncommon |
| Pertuzumab [35] | Breast | HF  LVD | Uncommon |
| Trastuzumab [36-38] | Breast, gastric,  gastroesophageal | HF  LVD | Common |
| **Small-molecule TKIs** | | | |
| Dabrafenib [39-41] | Melanoma | QT prolongation  HF  LVD  VTE | Common  Rarea |
| Dasatinib [42, 43] | Leukaemia, GIST | HF  LVD  QT prolongation  Pulmonary HTN | Uncommon  Rare |
| Lapatinib [44-46] | Breast | HF  LVD | Uncommon |
| Pazopanib [47, 48] | Renal, sarcoma,  thyroid | HTN  Bradyarrhythmia  HF  LVD  VTE  QT prolongation  ischaemia | Common  Uncommon |
| Ponatinib [42, 49, 50] | Leukaemia | HF  LVD  HTN  Ischaemia  ATE  VTE | Common |
| Sorafenib [51-54] | Hepatocellular, renal,  thyroid | HTN  HF  LVD  Ischaemia | Common |
| Trametinib [40, 55, 56] | Melanoma | HF  LVD  Bradyarrhythmia  QT prolongation  VTE  HTN | Common |
| Sunitinib [34, 48, 57] | Renal, thyroid,  sarcoma, GIST,  PNET | HTN  HF  LVD  VTE  ATE | Common  Uncommon |
| Axitinib [58] | Renal | HTN  VTE | Common  Uncommon |
| Nilotinib [42, 59] | Leukaemia | Ischaemia  VTE  ATE  QT prolongation  Atherosclerosis  Hyperglycaemia/  diabetes | Uncommon |
| Ibrutinib [60, 61] | Lymphoma | Atrial fibrillation  HTN  Bleeding  Ventricular  arrhythmia | Common  Rare |
| Ramucirumab [62, 63] | Colorectal, gastric,  lung | HTN  ATE  VTE | Common  Uncommon |
| Regorafenib [63, 64] | Colorectal, GIST | HTN  Ischaemia | Common  Rare |
| Imatinib [42, 65] | Leukaemia, GIST,  MDS, melanoma,  mastocytosis,  sarcoma | LVD  HF  Oedema | Rare  Common |
| Vandetanib [63, 66] | Thyroid | HTN  QT prolongation  HF  LVD | Common  Rare |
| Ziv-aflibercept [63, 67] | Colorectal cancer | HTN  QT prolongation  VTE  ATE | Common  Uncommon |
| Cabozantinib [63, 68] | Thyroid, renal | HTN  VTE | Common |
| Erlotinib [69-71]  Cetuximab [72, 73] | Lung, pancreatic,  colorectal | VTE  Ischaemia  SCD | Common  Rare |
| Ceritinib [74] | Lung | QT prolongation  Bradyarrhythmia | Uncommon |
| Crizotinib [75] | Lung | Bradyarrhythmiab  QT prolongation | Uncommon |
| Vemurafenib [41, 76] | Melanoma | HTN  QT prolongation  Arrhythmia  VTE | Uncommon  Rare |
| **Immune checkpoint inhibitors** | | | |
| Nivolumab  Ipilimumab  Pembrolizumab  [77-79] | Melanoma, lung,  kidney, bladder,  head and neck,  lymphoma | Myocarditis  Arrhythmia  LVD  SCD  Vasculitis  Pericarditis | Uncommon |
| **Protease inhibitors** | | | |
| Bortezomib [80, 81] | MM, MCL | HF  LVD  VTEc  HTN | Uncommon  Common |
| Carfilzomib [82-84] | MM | HF  LVD  VTE  HTN  ACS  Pulmonary HTN | Common  Uncommon |
| **mTOR inhibitors** | | | |
| Everolimus [85] | Breast, pancreas | HTN  VTE | Common  Uncommon |
| Temsirolimus [86] | Renal | HTN | Common |
| **IMiDs** | | | |
| Lenalidomide [87]  Thalidomide [88]  Pomalidomide [89] | MM | VTE  Bradycardia | Common  Uncommon |
| **Histone deacetylase inhibitors** | | | |
| Vorinostat [90, 91]  Belinostat [92] | Lymphoma | QT prolongation  VTE | Common  Uncommon |
| **Endocrine therapy** | | | |
| Selective ER  modulators   * Tamoxifen [93] * Toremifene [94] | Breast cancer | VTE  QT prolongation | Common |
| AIs   * Anastrozole [95] * Letrozole [96] * Exemestane [97] | Breast cancer | VTE  HTN  Hyperlipidaemia | Common |
| LHRH agonists   * Goserelin [98] * Leuprolide [99] | Breast, endometrial, prostate | Ischaemia  VTE  CVA  HF  LVD  QT prolongation | Uncommon |
| Antiandrogens   * Flutamide [100] * Bicalutamide [101] * Nilutamide [102] | Prostate cancer | Arrhythmia  ATE  VTE  HF  LVD  QT prolongation  HTN | Uncommon  Common |
| **Chimeric antigen receptor (CAR) T Cell Therapy** | | | |
| Tisagenlecleucel [103]  Axicabtagene ciloleucel [104] | B cell acute lymphoblastic leukaemia (refractory or relapse)  Large B cell lymphoma (refractory or relapse) | Tachycardia  Arrhythmia  Hypotension  HTN  HF  Capillary leak syndrome  MI (unrelated to CAD, likely due to antigen mimicry)  Cardiac arrest | Common  Uncommon |
| **Miscellaneous** | | | |
| Ribociclib [105] | Breast cancer | QT prolongation | Uncommond |
| Bleomycin [106-108] | SCC, melanoma, sarcoma, testicular, lymphoma | Ischaemia  Pericarditis  CVA | Rare |
| Tretinoin [109, 110] | Leukaemia | HF  LVD | Common |
| Arsenic trioxide [111, 112] | Leukaemia | QT prolongation  Heart block | Common  Rare |

aThese side effects are common when used in combination with trametinib.

bPer package insert, it was reported in 5 % of cases but was of low grade.

cVTE is common with bortezomib if used in combination with IMiDs.

dClinical trials excluded patients on other QT prolonging medications. In the clinical setting, this might be more common due to concomitant use of other QT-prolonging medications.

The frequency of toxicity was graded as common ≥5% incidence, uncommon 1%–5% incidence or rare <1% incidence in clinical trials or observational studies.

ACS, acute coronary syndrome; AI, aromatase inhibitor; ATE, arterial thromboembolism; CAD, coronary artery disease; CV, cardiovascular; CVA, cerebrovascular accident; ER, oestrogen receptor; GIST, gastrointestinal stromal tumour; HER2, human epidermal growth factor receptor 2; HF, heart failure; HTN, hypertension; IMiD, immunomodulatory drug; LHRH, luteinizing hormone-releasing hormone; LVD, left ventricular dysfunction; MCL, mantle cell lymphoma; MDS, myelodysplastic syndrome; MI, myocardial infarction; MM, multiple myeloma; mTOR, mammalian target of rapamycin; PNET, pancreatic neuroendocrine tumour; QT, corrected QT interval (preferably by Fridericia’s formula); SCC, squamous cell cancer; SCD, sudden cardiac death; SCT, stem cell transplant; TKI, tyrosine kinase inhibitor; VTE, venous thromboembolism.

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