Biosafety
ISSN: 2167-0331

Oiso, Biosafety 2012, 1:6
DOI: 10.4172/2167-0331.1000e127

Editorial Open Access

Biosafety for Targeted Therapy

Naoki Oiso*

Departments of Dermatology and Patient Safety & Management, Kinki University Faculty of Medicine, 377-2 Ohno-Higashi, Osaka-Sayama, Osaka 589-8511, Japan

The innovation of the pharmacological field brings us new options to manage disorders; those had been resistant to the used treatments. A recent topic in the dermatologic field includes targeted therapy. As reported elsewhere, these drugs show high efficacy for targeting disorders. To continue to use the drugs for wellness for patients, we need to pay attention to prevent, manage and overcome various skin eruptions, unexpected reactivation and recurrence of infection.

Targeted therapy with small molecules and monoclonal antibodies is effective for malignant tumors, especially inoperative and advanced cancers, autoimmune-related inflammatory diseases of severe and refractory psoriasis and psoriatic arthritis, and allergic diseases. Small molecules are composed of tyrosine kinase inhibitors (i.e. imatinib, gefitinib, erlotinib), a multikinase inhibitor (sorafenib), a tumor necrosis factor alpha (TNF-α) inhibitor (etanercept), and a proteasome inhibitor (bortezomib). Monoclonal antibodies are classified into chimeric antibodies (i.e. cetuximab, rituximab, infliximab), humanized antibodies (i.e. tocilizumab, trastuzumab, bevacizumab, omalizumab) and human antibodies (i.e. adalimumab, panitumumab).

Side effects by targeted therapy are supposed to be caused by mostly molecular function, to suppress the targeted protein and sometimes allergic reaction. The prevention and management for common skin eruptions are crucial. Gefitinib, erlotinib and cetuximab are tyrosine kinase inhibitors of epidermal growth factor receptor. Gefitinib and erlotinib have high efficacy for lung small cell carcinoma, and cetuximab is really effective for colon and rectal carcinoma. However, they may induce acne-like eruptions, seborrheic dermatitis-like eruptions, xerosis, paronychia, and other eruptions. Sorafenib shows high efficacy for renal cell carcinomas and hepatocellular carcinomas, but it often provokes hand hoot syndrome.

Rituximab is highly effective for various B-cell lymphomas, but it may reactivate hepatitis B and hepatitis C viruses. TNF-α blockers (etanercept, infliximab and adalimumab) shows high efficacy for inflammatory bowel diseases, rheumatoid arthritis, psoriasis and psoriatic arthritis, but they may reduce the potential immune function against infection. In Japan, infliximab and adalimumab are allowed to be used by the public health insurance organized by the Ministry of Health, Labor and Welfare. Infliximab and adalimumab are forbidden to apply for individuals with hepatitis B virus, to prevent reactivation of the virus and worsening of liver function. Tuberculosis is still not rare in Japan. Premedication of isoniazid is commonly applied to persons medicated with infliximab or adalimumab, to prevent infection and recurrence of tuberculosis.

The adequate control for various skin eruptions and infection will provide more apposite situation for patients taking targeted therapy. "Biosafety" is suitable journal for scientists, pharmacologists and physicians to communicate to improve the current condition. We can discuss pathogenesis of various skin eruptions and viral reactivation, cases with rare types of skin eruptions, possibly caused by targeted therapy, new treatment for various skin eruptions, and strategy to suppress viral reactivation. It is our honor to offer improving opportunity to targeted therapy.

***Corresponding author:** Naoki Oiso, Departments of Dermatology and Patient Safety & Management, Kinki University Faculty of Medicine, 377-2 Ohno-Higashi, Osaka-Sayama, Osaka 589-8511, Japan, Tel: 81-072 366 0221; Fax: 81-072 368 2120; E-mail: naoiso@med.kindai.ac.jp

Received November 19, 2012; **Accepted** November 21, 2012; **Published** November 23, 2012

Citation: Oiso N (2012) Biosafety for Targeted Therapy. Biosafety 1:e127. doi:10.4172/2167-0331.1000e127