PMDA Updates

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Office of Cellular and Tissue-based Products
Pharmaceuticals and Medical Devices Agency (PMDA)

The views and opinions expressed in this presentation are those of the presenter and should not necessarily represent the views and opinions of the PMDA.
Topics

- Streamline Post-Approval CMC Changes in Japan (in line with ICH Q12)
- PMDA Asian Training Center
- Biosimilars
- Approach to Fostering Innovative Product Development
Japan’s Effective/Efficient/Flexible Quality Regulation

Approved Matters

Application Form

Module 2 (QOS)

Module 3

Main review document

Summarized

Module 1
(Application Form)

Module 2 (QOS)

Module 3

Legally binding

Not-Changeable without regulatory procedures (PCA/MCN)

Changeable without regulatory procedures (PCA/MCN)
Asian Training Center (PMDA-ATC)

PMDA International Strategic Plan 2015

Expand training courses in Japan

Past and Upcoming Events/Symposia

- Pharmaceuticals Review Seminar 2016 (Jul 25-29, 2016)
- Pharmaceuticals Review Seminar 2016 in Thailand (Sep 26-29, 2016)
- Medical Devices Seminar 2016 (Nov 7-11, 2016)
- GMP Inspection Seminar 2016 (Dec 5-9, 2016)
- MRCT Seminar 2017 (Jan 23-26, 2017)
- Pharmacovigilance Seminar 2017 (Feb 6-9, 2017)

Further information; https://www.pmda.go.jp/english/symposia/0044.html
Recent Trends of Biosimilar development in Japan

Fiscal year (from April 1 to March 31)

Based on date of application

As of October 31

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<table>
<thead>
<tr>
<th>Number</th>
<th>Product type</th>
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<tbody>
<tr>
<td>30</td>
<td>mAbs &amp; Fc-fusion proteins, 42 (66%)</td>
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Hormones, 3
ESAs, 7
Insulins (incl. analogues), 5
G-CSFs, 4
FSHs, 2
Enzymes, 1
Tailwind?? or headwind??

<Background>

Cost-effectiveness of Biosimilars...

Biologics (vs Chemicals)??

Comparable (vs Identical)??

Biosimilars (vs Generics)??

Indication extrapolation??

@ National Diet in March, 2015

@ Budget Committee of the upper house of the Diet in October, 2016

Seriously consider (creating a target share for Biosimilars)
Approaches to promote innovative product development

- Pharmaceutical Affairs Consultation on R&D Strategy
- SAKIGAKE Designation System
- Conditional and Time-limited Authorization for Regenerative products

**Conditional/time-limited approval system under PMD Act**

*Traditional approval process*

1. Clinical study
2. Phased clinical trials (confirmation of efficacy and safety)
3. Marketing authorization
4. Marketing

*New scheme for regenerative medical products*

1. Clinical study
2. Clinical trials (likely to predict efficacy, confirming safety)
3. Conditional / time-limited authorization
4. Marketing (Further confirmation of efficacy and safety)
5. Re-application within a period (max. 7 yrs)
6. Marketing authorization or Revocation
7. Marketing continues

Post-marketing safety measures must be taken, including prior informed consent of risk to patients.

Pharmaceuticals and Medical Devices Agency
**2\textsuperscript{nd} Round of SAKIGAKE Designation is under review**

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<thead>
<tr>
<th>1\textsuperscript{st} for Pharmaceuticals</th>
<th>1\textsuperscript{st} for Medical devices, In-Vitro Diagnostics, Regenerative medical products</th>
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<tbody>
<tr>
<td>Announcement</td>
<td>2015. Apr 1</td>
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<tr>
<td>Invitation</td>
<td>2015. Jul 1</td>
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<tr>
<td>Designation</td>
<td>2015. Oct 27</td>
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<td>Designation</td>
<td>2016 Feb 10</td>
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<table>
<thead>
<tr>
<th>Product name</th>
<th>Expected indication</th>
<th>company</th>
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<tbody>
<tr>
<td>Sirolimus</td>
<td>Vascular fibroma associated with tuberous sclerosis</td>
<td>Nobelpharma</td>
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<tr>
<td>NS-065 / NCNP-01</td>
<td>Duchenne muscular dystrophy (DMD)</td>
<td>NihonShinyaku</td>
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<tr>
<td>S-033188</td>
<td>Influenza A or B virus infection</td>
<td>Shionogi</td>
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<td>BCX7353</td>
<td>Management of angioedema attacks in patients with hereditary angioedema (HAE)</td>
<td>Integrated Development Associates</td>
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<td>ASP2215</td>
<td>First-relapse or treatment-resistant FLT3 gene mutation-positive acute myeloid leukemia</td>
<td>Astellas Pharma</td>
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<td>Pembrolizumab</td>
<td>Unresectable, advanced and recurrent gastric cancer</td>
<td>MSD</td>
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<th>Expected indication</th>
<th>company</th>
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<tr>
<td>Titanium Bridge (Hinge-type plate with Titanium)</td>
<td>Adduction-type spasmodic dysphonia</td>
<td>Nobelpharma</td>
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<td>Bioresorbable adhesion barrier (THN-01: Trehalose solution)</td>
<td>Postoperative adhesion prevention</td>
<td>Otsuka Pharmaceutical Factory</td>
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<td>STR01 (Autologous bone marrow-derived mesenchymal stem cell)</td>
<td>Nerve syndrome and dysfunction caused by spinal cord injury</td>
<td>NIPRO</td>
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<td>G47Δ (Growth-controlled oncolytic herpes simplexvirus type 1)</td>
<td>Malignantglioma</td>
<td>Daiichi Sankyo</td>
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<tr>
<td>Autologous cardiac progenitor/stem cells</td>
<td>Pediatric congenital heart disease (single ventricle physiology)</td>
<td>Japan Regenerative Medicine</td>
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Thank you for your attention!

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Acknowledgements

Colleagues in the Office of Cellular and Tissue-based Products