WHO IS AFRAID OF BIG BAD BIOLOGICS

Cardiovascular Risk

- May cause an increased risk of serious cardiovascular thrombotic events, myocardial infarction (MI), and stroke at higher rates during initial treatment
- увеличен риск сердечно-сосудистых осложнений, инфаркта миокарда и инсульта.
- For patients with cardiovascular disease or risk factors for cardiovascular disease, may be at greater risk (see WARNINGS)
- Следует проводить лечение для пациентов с сердечно-сосудистой патологией или факторами риска кардиоваскулярных заболеваний.
-\\n
Gastrointestinal Risk

- Risk of serious gastrointestinal adverse events including bleeding, perforation, and obstruction
- Увеличен риск серьезных желудочно-кишечных осложнений, включая кровотечение, перфорацию и обструкцию.
- For patients with gastrointestinal disease or risk factors for gastrointestinal disease, may be at greater risk (see WARNINGS)
- Следует проводить лечение для пациентов с желудочно-кишечными заболеваниями или факторами риска желудочно-кишечных заболеваний.

Renal Effects

- Long-term administration of \( \text{drug} \) has resulted in renal injury, including ischemic necrosis and other renal injury. Renal toxicity has also been seen in patients in whom renin-angiotensin system has a compensatory role in the maintenance of renal perfusion. In these patients, administration of nonsteroidal anti-inflammatory drug may cause a dose-dependent reduction in prostaglandin formation and, secondarily, in renal blood flow, which may precipitate overt renal decompensation
- Долгосрочное применение \( \text{лекарство} \) привело к почечной недостаточности, включая некроз и другие виды повреждения почек. Почки также могут быть повреждены у пациентов, в которых ренин-ангиотензиновая система выполняет компенсаторную функцию для поддержания кровотока в почках. При этом добавление нестероидных противовоспалительных препаратов может привести к дозо-зависимому снижению образования простагландинов и, в свою очередь, кровотока в почках, что способствует развитию явно выраженной почечной недостаточности.

Hepatic Effects

- Borderline elevations of one or more liver tests may occur in up to 15% of patients taking \( \text{drug} \), including:
- Бистрый рост значений одного или нескольких показателей функции печени у 15% пациентов, принимавших \( \text{лекарство} \), включая:
- Суперфосфат перед \( \text{бисфосфонат} \) лечение может быть необходимо.
- A patient with symptoms and/or signs suggesting liver dysfunction, or in whom an abnormal liver test has occurred, should be evaluated for evidence of the development of a more severe hepatic reaction while on therapy with \( \text{лекарство} \)
- У пациента с симптомами и/или признаками нарушения функции печени, или при наличии необычного показателя функции печени, следует провести оценку возможности развития более серьезного реакции на препараты.
Aseptic Meningitis

Aseptic meningitis, with fever and neck stiffness, has been observed on rare occasions in patients on therapy. Although it is probably more likely to occur in patients with systemic lupus erythematosus and related connective tissue diseases, it has been reported in patients who do not have an underlying chronic disease.

Effective Date: 05/25/2006
MOTRIN® (ibuprofen) Suspension 100 mg/5 mL

WHICH BIOLOGIC’S PACKAGE INSERT IS THIS?
A: Etanercept
B: Secukinumab
C: Ustekinumab
D: Tildrakizumab
E: None of the above

More than 80% of Psoriasis Patients Receive: No Treatment or Topical Therapy Only for Their Psoriasis

Results from the 2012 MAFF patient survey

- More than 50% of patients are treated with only topical therapy, regardless of disease severity
Pancytopenia secondary to methotrexate therapy in rheumatoid arthritis.
Gutierrez-Urena S et al.

- 70 cases, 12 deaths
- 1.4% in prospective trials
- Risk factors: ↑ BUN, Cr; ↓ albumin; infection; medications; age

Pancytopenia associated with low dose methotrexate therapy. A regional survey.

15 cases 1981-1991
contributing factors:
- ↑ BUN, creatinine
- ↑ MCV
- ↑ age
- trimethoprim-sulfamethoxazole

Cyclosporine
The Pathophysiology of Psoriasis Provides Several Points for Therapeutic Intervention
DISEASE MODIFICATION AND LONG TERM RESULTS
Comparison of Gene Expression Normalization in Subjects Treated with Infliximab or Etanercept

Boxed Warning

PSORIASIS TREATMENT CAUSES DEPRESSION

MYTH OR TRUTH

Common Comorbidities in Psoriasis Patients:

1. In a population-based study (n=1,355), with participants in the National Health and Nutrition Examination Survey from 2000 through 2010, 1.2% of patients were diagnosed with psychiatric disorders. 1.2% were diagnosed with depression.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatric disorders</td>
<td>16.0 (7.1)</td>
</tr>
<tr>
<td>Depression</td>
<td>7.0 (6.0)</td>
</tr>
<tr>
<td>Major depression</td>
<td>1.0 (0.0)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>5.0 (5.0)</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>1.0 (0.0)</td>
</tr>
</tbody>
</table>

*Note: All percentages are estimates. The sample size is n=1,355. 1.2% of participants were diagnosed with depression.*
No imbalance in Overall SIB up to

Table 1. Neurological events during short- and long-term treatment

| Event                                      | Placebo | Brodalumab | Relative Risk | p-Value
|--------------------------------------------|---------|------------|---------------|---------
| Adverse events:                           |         |            |               |         
| Any adverse events                        | 752     | 717        | 1.04          | 0.43    |
| Adverse events resulting in death         | 13      | 12         | 1.03          | 0.59    |
| Adverse events resulting in discontinuation| 35      | 31         | 1.11          | 0.54    |
| Other serious adverse events               | 111     | 100        | 1.11          | 0.54    |
| Serious adverse events causing hospitalization| 17      | 17         | 1.00          | 0.99    |
| Serious adverse events resulting in death  | 13      | 12         | 1.03          | 0.59    |
| Total adverse events                       | 878     | 867        | 1.04          | 0.43    |

Overall survival: 1,110 patients who had received at least one dose of treatment:

- Placebo: 72.6 months (95% CI: 68.7, 76.5)
- Brodalumab: 75.6 months (95% CI: 71.7, 79.5)

Mantel-Cox log-rank test: p = 0.037

**Conflicts of Interest:**
- The authors have declared no conflicts of interest.

**Acknowledgments:**
- The study was supported by grants from the National Institute of Mental Health (K23MH100689, R01MH103968, and R01DA050276)
- The authors thank the study participants and their families for their contributions to the study.
- The authors thank the study team and the data management and statistical analysis team for their contributions.

**References:**

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**Supplementary Table 2. Neurological events during short- and long-term treatment**

| Event                                      | Placebo | Brodalumab | Relative Risk | p-Value
|--------------------------------------------|---------|------------|---------------|---------
| Adverse events:                           |         |            |               |         
| Any adverse events                        | 752     | 717        | 1.04          | 0.43    |
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**References:**

**Supplementary Table 3. Neurological events during short- and long-term treatment**

| Event                                      | Placebo | Brodalumab | Relative Risk | p-Value
|--------------------------------------------|---------|------------|---------------|---------
| Adverse events:                           |         |            |               |         
| Any adverse events                        | 752     | 717        | 1.04          | 0.43    |
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**References:**
Four national studies (a healthcare database from Israel, and prospective cohorts from Italy, Spain, and UK/ROI) collaborating through Psonet (European Registry of Psoriasis) participated in these nested case-control studies, including nearly 60,000 person-years of observation. Cases were patients who developed an incident cancer. Patients with previous cancers and benign or in-situ tumours were excluded. Four cancer-free controls were matched to each case on year of birth, gender, geographic area, and registration year. Follow-up for controls was censored at the date of cancer diagnosis for the matched case. Conditional logistic regression was performed by each registry. Results were pooled using random effects meta-analysis.

Cumulative exposure to biologics and risk of cancer in psoriasis patients: A meta-analysis of Psonet studies from Israel, Italy, Spain, United Kingdom and Republic of Ireland


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728 cases and 2671 controls were identified. After matching, differences between cases and controls were present for the Charlson comorbidity index in all three registries, and in the prevalence of previous psoriasis, and smoking (BADOIR and GAMA) and smoking (BADOIR only). The risk of first cancers was not significantly associated with cumulative exposure to biologics (adjusted odds ratio per year of exposure 1.02; 95% CI 0.92, 1.13). Results were similar for squamous and basal cell carcinomas were included in the outcome.
Challenges with Older Biologics: Biologic Fatigue and Multiple Switching

- A significant number of patients will discontinue their first biologic most often due to loss of efficacy.
- Efficiency of second biologic may not reach that of the first.

96-Month Drug Persistence with Older Biologics

ONLY TNF α INHIBITORS ARE SAFE

MYTH OR TRUTH

WHICH GLASS HAS MORE WINE?

PERCEPTION

ADALIMUMAB

101

WARNING: SERIOUS INFECTIONS AND MALIGNANCY
See full prescribing information for complete boxed warning.

ADMINISTRATION

- Intravenous administration, 40 mg per week
- Intramuscular administration, 40 mg per week

PRECAUTIONS

- Discontinue if new infection or sepsis occurs
- Perform annual tuberculosis skin testing
- Monitor in patients with latent TB
- Hepatitis B vaccination
- Lymphoma has been reported

POSTMARKETING SURVEILLANCE

- Lymphoma, including B-cell and T-cell lymphomas, has been reported
- Postmarketing cases of lymphoma, particularly T-cell lymphomas, have occurred in patients treated with TNF blockers including adalimumab.
IXEKIZUMAB

25

SECUKINUMAB

19

WHAT IS THE NPF MEDICAL BOARD RECOMMENDATION FOR TREATING TO TARGET?

A: BSA < 10% at 3 months
B: BSA < 5% at 3 months
C: BSA < 1% at 3 months
D: PASI 100 at 3 months
E: PASI 75 at 3 months