



Symposium IMAGING AND MULTIPLE MYELOMA: Current concepts and controversies

▶ Announcement



▶ **Friday 04 March 2016**
Hof ter Musschen, Brussel

▶ www.bhs.be

▶ INTRODUCTION

Management of multiple myeloma is a rapidly evolving field. Beside the progress of treatment, with a lot of new drugs and prolonged survival, the definition and imaging techniques of bone disease are changing.

For decades Xrays bone survey has been the gold standard for diagnosis of bone lesions .Now low dose CT-scan, MRI and Pet-CT become more and more reference examinations.

During this symposium, we will have the opportunity to learn from radiologists and nuclearists about these imaging techniques and their role in the diagnosis and follow-up of multiple myeloma, in the context of the new definitions of symptomatic myeloma. We will also listen to the experience of the IFM group regarding the prognostic implication of MRI and Pet-CT. Finally we hope that we will have a constructive and interactive multidisciplinary discussion between hematologists, radiologists and nuclearists, trying to define guidelines for Belgium.

We wish you an inspiring symposium!

Chantal Doyen, committee chair

Karolien Beel

Greet Bries

Jo Caers

Bernard De Prijck

Hade De Samblanx

Hilde Demuyne

Michel Delforge

Anne Deweweire

Karel Fostier

Alain Kentos

Nathalie Meuleman

Philippe Mineur

Fritz Offner

Rik Schots

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Jan Van Droogenbroeck

Ann Van De Velde

Isabelle Vande Broek

Marie-Christiane Vekemans

Philip Vlummens

KaLung Wu

▶ SPONSORS





PROGRAMME

- 14.00 Welcome on behalf of the BHS MM subcommittee
C Doyen
- 14.10 Updated IMWG definitions generate new questions on imaging
J Caers, CHU Sart Tilman , Liège
- 14.20 MRI in MM: use and limitations
F Lecouvet, UCL Saint Luc Brussels
- 14.45 CT scan imaging in MM: the new standard
S Pans, UZ Leuven
- 15.05 Prospective evaluation of MRI and Pet-Ct in the IFM DFCl 2009 trial
P Moreau, Nantes
- 15.40 Diagnostic criteria for Pet- CT in MM
N Whitofs, CHU Sart Tilman, Liège
- 16.00 Coffee break
- 16.30 Clinical cases and roundtable
K Fostier ,UZ Brussel
M Delforge, UZ Leuven
C. Doyen, UCL Mont Godinne
S Pans, UZ Leuven
M-C Vekemans, UCL Saint Luc
N Whitofs, CHU Sart Tilman, Liège
- 17.15 Conclusion: to Belgian guidelines
N Meuleman, Inst Bordet, Brussels

GENERAL INFORMATION

Location

Hof ter Musschen
Av. Emmanuel Mounierlaan 2
1200 Brussel
Tel.: +32 (0) 2 774 01 10

Registration

Please register online via the BHS website (www.bhs.be),
or via www.congresscare.com
Registration is free of charge.

Language

The meeting language will be English.

Accreditation

Accreditation is pending nr. 15018893

Website

www.bhs.be

Symposium secretariat

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*ndMM NSCT: newly diagnosed multiple myeloma non stem cell transplant
1, Benboubker et al. NEJM 2014;371:906-917
2, Facon et al. ASCO 2015 Abstract #8524
3, Facon et al. Oral presentation EHA 2015, abstract #S105

- 35 months of median duration of response¹
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Tabulated summary for combination therapy The adverse reactions observed in patients treated for multiple myeloma are listed below by system organ class and frequency. Within each frequency grouping, adverse reactions are ordered in order of decreasing seriousness. Frequencies are defined as: very common ($\geq 1/100$), common ($\geq 1/100$ to $< 1/10$), uncommon ($\geq 1/1,000$ to $< 1/100$), rare ($\geq 1/10,000$ to $< 1/1,000$), very rare ($< 1/10,000$), not known (cannot be estimated from the available data). The following table is derived from data gathered during the multiple myeloma studies with combination therapy. The data were not adjusted according to the longer duration of treatment in the lenalidomide-containing arms continued until disease progression versus the comparator arms in the pivotal multiple myeloma studies (see section 5.1 of the SPC). Adverse reactions have been included under the appropriate category in the table below according to the highest frequency observed in any of the main clinical trials. **Table 1: ADRs reported in clinical studies in patients with multiple myeloma treated with lenalidomide in combination with dexamethasone, or with melphalan and prednisone** System Organ Class / Preferred Term: Infections and Infestations All ADRs/Frequency: **Very Common** Pneumonia, Upper respiratory tract infection, Bacterial, viral and fungal infections (including opportunistic infections), Sepsis, Bronchitis, System Organ Class / Preferred Term: Neoplasms Benign, Malignant and Unspecified (incl cysts and polyps) All ADRs/Frequency: **Common** Pneumonia, Bacterial, viral and fungal infections (including opportunistic infections), Sepsis, Bronchitis, System Organ Class / Preferred Term: Neoplasms Benign, Malignant and Unspecified (incl cysts and polyps) All ADRs/Frequency: **Common** Basal cell carcinoma, Squamous cell cancer* Grade 3–4 ADRs/Frequency: **Common** Acute myeloid leukaemia, Myelodysplastic syndrome, Squamous cell carcinoma of skin** **Uncommon** T-cell type acute leukaemia, Basal cell carcinoma, Tumour lysis syndrome, System Organ Class / Preferred Term: Blood and Lymphatic System Disorders All ADRs/Frequency: **Very Common** Neutropenia[†], Thrombocytopenia[†], Anaemia, Haemorrhagic disorder[†], Leucopenia, Common Febrile neutropenia, Pancytopenia **Uncommon** Haemolysis, Autoimmune haemolytic anaemia, Haemolytic anaemia Grade 3–4 ADRs/Frequency: **Very Common** Neutropenia[†], Thrombocytopenia[†], Anaemia, Leucopenia, Common Febrile neutropenia[†], Pancytopenia, Haemolytic anaemia **Uncommon** Hypercoagulability, Coagulopathy, System Organ Class / Preferred Term: Immune System Disorders All ADRs/Frequency: **Uncommon** Hypersensitivity[†], System Organ Class / Preferred Term: Endocrine Disorders All ADRs/Frequency: **Common** Hypothyroidism, System Organ Class / Preferred Term: Metabolism and Nutrition Disorders All ADRs/Frequency: **Very Common** Hypokalaemia, Hypocalcaemia, Decreased appetite, Weight decreased **Uncommon** Hypomagnesaemia, Hyperuricaemia, Dehydration Grade 3–4 ADRs/Frequency: **Common** Hypokalaemia, Hyperglycaemia, Hypocalcaemia, Diabetes mellitus, Hypophosphataemia, Hyponatremia, Hyperuricaemia, Gout, Decreased appetite, Weight decreased, System Organ Class / Preferred Term: Psychiatric Disorders All ADRs/Frequency: **Very Common** Depression, **Uncommon** Loss of libido Grade 3–4 ADRs/Frequency: **Common** Depression, Insomnia, System Organ Class / Preferred Term: Nervous System Disorders All ADRs/Frequency: **Very Common** Peripheral neuropathies (excluding motor neuropathy), Dizziness, Tremor, Dysgeusia, Headache Grade 3–4 ADRs/Frequency: **Common** Ataxia, Balance impaired Grade 3–4 ADRs/Frequency: **Common** Cerebrovascular accident, Dizziness, Syncope **Uncommon** Intracranial haemorrhage[†], Transient ischaemic attack, Cerebral ischaemia, System Organ Class / Preferred Term: Eye Disorders All ADRs/Frequency: **Very Common** Conjunctivitis, Blurred vision **Uncommon** Reduced visual acuity Grade 3–4 ADRs/Frequency: **Common** Cataract, **Uncommon** Blindness, System Organ Class / Preferred Term: Ear, Nose and Throat Disorders All ADRs/Frequency: **Common** Deafness (including myoclonic), Tinnitus, System Organ Class / Preferred Term: Cardiac Disorders All ADRs/Frequency: **Common** Atrial fibrillation, Bradycardia, **Uncommon** Arrhythmia, QT prolongation, Atrial flutter, Ventricular extrasystoles Grade 3–4 ADRs/Frequency: **Common** Myocardial infarction (including acute[†]), Atrial fibrillation, Congestive cardiac failure, Tachycardia, Cardiac failure, Myocardial ischaemia, System Organ Class / Preferred Term: Vascular Disorders All ADRs/Frequency: **Very Common** Venous thromboembolic events, predominantly deep vein thrombosis and pulmonary embolism[†] **Common** Hypertension, Eczychymosis, Grade 3–4 ADRs/Frequency: **Very Common** Venous thromboembolic events, predominantly deep vein thrombosis and pulmonary embolism[†] **Common** Vasculitis **Uncommon** Ischemia, Peripheral ischaemia, Intracranial venous sinus thrombosis, System Organ Class / Preferred Term: Respiratory, Thoracic and Mediastinal Disorders All ADRs/Frequency: **Very Common** Dyspnoea, Epistaxis[†] Grade 3–4 ADRs/Frequency: **Common** Respiratory distress, Dyspnoea, System Organ Class / Preferred Term: Gastrointestinal Disorders All ADRs/Frequency: **Very Common** Diarrhoea, Constipation, Abdominal pain, Nausea, Vomiting, Dyspepsia **Common** Gastrointestinal haemorrhage (including rectal haemorrhage, haemorrhoidal haemorrhage, epiploic ulcer haemorrhage and gingival bleeding)[†], Dry mouth, Stomatitis, Dysphagia **Uncommon** Colitis, Caecitis Grade 3–4 ADRs/Frequency: **Common** Diarrhoea, Constipation, Abdominal pain, Nausea, Vomiting, System Organ Class / Preferred Term: Hepatobiliary Disorders All ADRs/Frequency: **Common** Abnormal liver function tests **Uncommon** Hepatic failure[†] Grade 3–4 ADRs/Frequency: **Common** Cholestasis, Abnormal liver function tests **Uncommon** Hepatic failure[†], System Organ Class / Preferred Term: Skin and Subcutaneous Tissue Disorders All ADRs/Frequency: **Very Common** Rash, Pruritus, **Common** Urticaria, Hyperhidrosis, Dry skin, Skin hyperpigmentation, Eczema, Erythema **Uncommon** Skin discoloration, Photosensitivity reaction Grade 3–4 ADRs/Frequency: **Common** Rash, System Organ Class / Preferred Term: Musculoskeletal and Connective Tissue Disorders All ADRs/Frequency: **Very Common** Muscle spasms, Bone pain, Musculoskeletal and connective tissue pain and discomfort, Arthralgia, **Uncommon** Muscular weakness, Joint swelling, Myalgia Grade 3–4 ADRs/Frequency: **Common** Muscular weakness, Bone pain **Uncommon** Joint swelling, System Organ Class / Preferred Term: Renal and Urinary Disorders All ADRs/Frequency: **Very Common** Renal failure (including acute[†]), **Common** Haematuria[†], Urinary retention, Urinary incontinence **Uncommon** Acquired Fanconi syndrome Grade 3–4 ADRs/Frequency: **Uncommon** Renal tubular necrosis, System Organ Class / Preferred Term: Reproductive System and Breast Disorders All ADRs/Frequency: **Common** Erectile dysfunction, System Organ Class / Preferred Term: General Disorders and Administration Site Conditions All ADRs/Frequency: **Very Common** Fatigue, Oedema (including peripheral oedema), Pyrexia, Asthenia, Influenza like illness syndrome (including pyrexia, cough, pharyngitis, myalgia, musculoskeletal pain, headache and rigors) **Common** Chest pain, Lethargy Grade 3–4 ADRs/Frequency: **Common** Fall, Contusion[†] [†] See section 4.8 of the SPC description of selected adverse reactions * Squamous cell cancer was reported in clinical trials in previously treated myeloma patients with lenalidomide/dexamethasone compared to controls** Squamous cell carcinoma of skin was reported in a clinical trial in newly diagnosed myeloma patients with lenalidomide/dexamethasone compared to controls (tabulated summary from monotherapy). The adverse reactions observed in patients treated for myelodysplastic syndromes are listed below by system organ class and frequency. Within each frequency grouping, adverse reactions are presented in order of decreasing seriousness. Frequencies are defined as: very common ($\geq 1/100$), common ($\geq 1/100$ to $< 1/10$), uncommon ($\geq 1/1,000$ to $< 1/100$), rare ($\geq 1/10,000$ to $< 1/1,000$), very rare ($< 1/10,000$), not known (cannot be estimated from the available data). The following table is derived from data gathered during the main studies in monotherapy for myelodysplastic syndromes. Frequencies are defined as: very common ($\geq 1/100$), common ($\geq 1/100$ to $< 1/10$), uncommon ($\geq 1/1,000$ to $< 1/100$), rare ($\geq 1/10,000$ to $< 1/1,000$), very rare ($< 1/10,000$), not known (cannot be estimated from the available data). The following table is derived from data gathered during the main studies in patients with myelodysplastic syndromes treated with lenalidomide in combination with dexamethasone, or with melphalan and prednisone. System Organ Class / Preferred Term: Infections and Infestations All ADRs/Frequency: **Very Common** Pneumonia, Bacterial, viral and fungal infections (including opportunistic infections), System Organ Class / Preferred Term: Blood and Lymphatic System Disorders All ADRs/Frequency: **Very Common** Thrombocytopenia[†], Neutropenia[†], Leucopenia Grade 3–4 ADRs/Frequency: **Common** Thrombocytopenia[†], Neutropenia[†], Leucopenia, Common Febrile neutropenia[†], System Organ Class / Preferred Term: Endocrine Disorders All ADRs/Frequency: **Common** Hypothyroidism, System Organ Class / Preferred Term: Metabolism and Nutrition Disorders All ADRs/Frequency: **Very Common** Decreased appetite **Common** Iron overload, Weight decreased Grade 3–4 ADRs/Frequency: **Common** Hypervolaemia[†], Decreased appetite, System Organ Class / Preferred Term: Psychiatric Disorders Grade 3–4 ADRs/Frequency: **Common** Altered mood[†], System Organ Class / Preferred Term: Nervous System Disorders All ADRs/Frequency: **Very Common** Dizziness, Headache **Common** Paraesthesia, System Organ Class / Preferred Term: Cardiac Disorders Grade 3–4 ADRs/Frequency: **Common** Acute myocardial infarction[†], Atrial fibrillation[†], Cardiac failure[†], System Organ Class / Preferred Term: Vascular Disorders All ADRs/Frequency: **Common** Hypertension, Haematoma Grade 3–4 ADRs/Frequency: **Common** Venous thromboembolic events, predominantly deep vein thrombosis and pulmonary embolism[†] System Organ Class / Preferred Term: Respiratory, Thoracic and Mediastinal Disorders All ADRs/Frequency: **Very Common** Epistaxis[†] Grade 3–4 ADRs/Frequency: **Common** Bronchitis, System Organ Class / Preferred Term: Gastrointestinal Disorders All ADRs/Frequency: **Very Common** Diarrhoea, Abdominal pain (including upper), Nausea, Vomiting, Constipation **Common** Dry mouth, Dyspepsia Grade 3–4 ADRs/Frequency: **Common** Diarrhoea[†], Nausea, Toothache, System Organ Class / Preferred Term: Hepatobiliary Disorders All ADRs/Frequency: **Common** Abnormal liver function tests Grade 3–4 ADRs/Frequency: **Common** Abnormal liver function tests, System Organ Class / Preferred Term: Skin and Subcutaneous Tissue Disorders All ADRs/Frequency: **Very Common** Rash, Dry skin, Pruritus Grade 3–4 ADRs/Frequency: **Common** Rash, System Organ Class / Preferred Term: Musculoskeletal and Connective Tissue Disorders All ADRs/Frequency: **Very Common** Muscle spasms, Musculoskeletal pain (including back pain and pain in extremity), Arthralgia, Myalgia Grade 3–4 ADRs/Frequency: **Common** Back pain[†], System Organ Class / Preferred Term: Renal and Urinary Disorders **Common** Renal failure[†], System Organ Class / Preferred Term: General Disorders and Administration Site Conditions All ADRs/Frequency: **Very Common** Fatigue, Peripheral oedema, Influenza like illness syndrome (including pyrexia, cough, pharyngitis, myalgia, musculoskeletal pain, headache) Grade 3–4 ADRs/Frequency: **Common** Pyrexia, System Organ Class / Preferred Term: Injury, Poisoning and Procedural Complications Grade 3–4 ADRs/Frequency: **Common** Fall[†] [†] See section 4.8 of the SPC description of selected adverse reactions [†] Adverse events reported as serious in myelodysplastic syndromes clinical trials – Altered mood was reported as a common serious adverse event in the myelodysplastic syndromes Phase III study; it was not reported as a grade 3 or 4 adverse event [†] Although applied for myelodysplastic syndromes, Myelodysplastic syndromes Phase III study (double-blind safety population, difference between lenalidomide 5/10mg and placebo by initial dosing regimen occurring in at least 2 subjects) All treatment-emergent adverse events with $\geq 5\%$ of subjects in lenalidomide and at least 2% difference in proportion between lenalidomide and placebo All treatment-emergent grade 3 or 4 adverse events in 1% of subjects in lenalidomide and at least 1% difference in proportion between lenalidomide and placebo All treatment-emergent serious adverse events in 1% of subjects in lenalidomide and at least 1% difference in proportion between lenalidomide and placebo Myelodysplastic syndromes Phase III study All treatment-emergent adverse events with $\geq 5\%$ of lenalidomide treated subjects All treatment-emergent grade 3 or 4 adverse events in 1% of lenalidomide treated subjects All treatment-emergent serious adverse events in 1% of lenalidomide treated subjects **Algorithms** applied for inclusion in the SmPC: All ADRs captured by the Phase II study algorithm are included in the EU SmPC. For these ADRs, an additional check of the frequency of the ADRs captured by the Phase II study algorithm was undertaken and, if the frequency of the ADRs in the Phase II study was higher than the Phase III study, the event listed in the EU SmPC, at the frequency observed in the Phase II study. Tabulated summary of post-marketing data in addition to above adverse reactions identified from the pivotal clinical trials, the following table is derived from data gathered from post-marketing data. Table 3: ADRs reported in post-marketing use in patients with multiple myeloma treated with lenalidomide, System Organ Class / Preferred Term: Neoplasms Benign, Malignant and Unspecified (incl cysts and polyps) Grade 3–4 ADRs/Frequency: **Rare** Tumour lysis syndrome, System Organ Class / Preferred Term: Endocrine Disorders All ADRs/Frequency: **Common** Hypothyroidism, System Organ Class / Preferred Term: Respiratory, Thoracic and Mediastinal Disorders Grade 3–4 ADRs/Frequency: **Not Known** Interstitial pneumonitis, System Organ Class / Preferred Term: Gastrointestinal Disorders Grade 3–4 ADRs/Frequency: **Not Known** Pancreatitis, Gastrointestinal perforation (including diverticular, intestinal and large intestine perforations), System Organ Class / Preferred Term: Hepatobiliary Disorders All ADRs/Frequency: **Not Known** Acute hepatic failure[†], Hepatitis toxic[†], Cytolytic hepatitis[†], Cholestatic hepatitis[†], Mixed cytolytic/cholestatic hepatitis[†] Grade 3–4 ADRs/Frequency: **Not Known** Acute hepatic failure[†], Hepatitis toxic[†], System Organ Class / Preferred Term: Skin and Subcutaneous Tissue Disorders Grade 3–4 ADRs/Frequency: **Uncommon** Angioedema **Rare** Stevens-Johnson syndrome[†], Toxic epidermal necrolysis[†] **Not Known** Leukocytoclastic vasculitis [†] See section 4.8 of the SPC description of selected adverse reactions [†] Description of selected adverse reactions: **Treatability** Lenalidomide is structurally related to thalidomide. Thalidomide is a known human teratogenic active substance that causes severe life-threatening birth defects. Lenalidomide induced in monkeys malformations similar to those described with thalidomide (see sections 4.6 and 5.3 of the SPC). If lenalidomide is taken during pregnancy, a teratogenic effect of lenalidomide in humans is expected. **Neutropenia and thrombocytopenia** Newly diagnosed multiple myeloma patients treated with lenalidomide in combination with low dose dexamethasone: The combination of lenalidomide with low dose dexamethasone in newly diagnosed multiple myeloma patients is associated with a decreased incidence of grade 4 neutropenia (8.5% in Rd and Rd18, compared with 15% in MPT). Grade 4 febrile neutropenia was observed infrequently (0.6% compared with 0.7% in MPT). The combination of lenalidomide with low dose dexamethasone in newly diagnosed multiple myeloma patients is associated with a decreased incidence of grade 3 and 4 thrombocytopenia (8.1 in Rd and Rd18 compared to 11% in MPT). **Newly diagnosed multiple myeloma patients treated with lenalidomide in combination with melphalan and prednisone** The combination of lenalidomide with melphalan and prednisone in newly diagnosed multiple myeloma patients is associated with a higher incidence of grade 4 neutropenia (34.1% in MPR+R/MP+P compared with 7.8% in MP+P) but. There was a higher incidence of grade 4 febrile neutropenia observed (1.7% in MPR+R/MP+P compared to 0.0% in MP+P). The combination of lenalidomide with melphalan and prednisone in newly diagnosed multiple myeloma patients is associated with a higher incidence of grade 3 and grade 4 thrombocytopenia (40.4% in MPR+R/MP+P treated patients, compared with 13.7% in MP+P-treated patients). **Multiple myeloma patients treated with lenalidomide with at least one prior therapy** The combination of lenalidomide with dexamethasone in multiple myeloma patients is associated with a higher incidence of grade 3 and 4 neutropenia (15.1% in lenalidomide/dexamethasone-treated patients compared with 0.6% in placebo/dexamethasone-treated patients). Grade 4 febrile neutropenia episodes were observed infrequently (0.6% in lenalidomide/dexamethasone-treated patients compared to 0.6% in placebo/dexamethasone-treated patients). The combination of lenalidomide with dexamethasone in multiple myeloma patients is associated with a higher incidence of grade 3 and grade 4 thrombocytopenia (9.9% and 1.9%, respectively, in lenalidomide/dexamethasone-treated patients compared to 2.3% and 0.0% in placebo/dexamethasone-treated patients). **Myelodysplastic syndromes** In myelodysplastic syndromes patients, lenalidomide is associated with a higher incidence of grade 3 or 4 neutropenia (74.6% in lenalidomide-treated patients compared with 14.9% in patients on placebo in the Phase III study). Grade 3 or 4 febrile neutropenia episodes were observed in 2.2% of lenalidomide-treated patients compared to 0.0% in patients on placebo. Lenalidomide is associated with a higher incidence of grade 3 or 4 thrombocytopenia (37.6% in lenalidomide-treated patients compared with 1.5% in patients on placebo in the Phase III study). **Idiopathic thrombocytopenic purpura** An increased risk of DVT and PE is associated with the use of lenalidomide with dexamethasone in patients with multiple myeloma. Tabulated summary of post-marketing data in addition to above adverse reactions identified from the pivotal clinical trials in patients with myelodysplastic syndromes treated with lenalidomide monotherapy (see section 4.5 of the SPC). Common administration of erythropoietic agents or previous history of DVT may also increase thrombotic risk in these patients. **Idiopathic thrombocytopenic purpura** Idiopathic thrombocytopenic purpura has been reported in patients receiving lenalidomide, particularly in those with known risk factors. **Haemorrhagic disorders** Haemorrhagic disorders are listed under several system organ classes: Blood and lymphatic system disorders; nervous system disorders (intracranial haemorrhage); respiratory, thoracic and mediastinal disorders (epistaxis); gastrointestinal disorders (gingival bleeding, haemorrhoidal haemorrhage, rectal haemorrhage); renal and urinary disorders (haematuria); injury, poisoning and procedural complications (contusion) and vascular disorders (ecchymosis). **Alleged reactions** Cases of allergic reaction/hypersensitivity reactions have been reported. A possible cross-reaction between lenalidomide and thalidomide has been reported in the literature. **Severe skin reactions** SJS and TEN have been reported to patients with a history of severe rash associated with thalidomide treatment that does not receive lenalidomide. **Second primary malignancies** In clinical trials in previously treated myeloma patients with lenalidomide/dexamethasone treatment compared to controls, mainly comprising of basal cell or squamous cell skin cancers, **Acute myeloid leukaemia**, Multiple myeloma cases of AML have been observed in clinical trials of newly diagnosed multiple myeloma in patients taking lenalidomide treatment in combination with melphalan or immediately following high dose melphalan and ASCT (see section 4.4 of the SPC). This increase was not observed in clinical trials of newly diagnosed multiple myeloma in patients taking lenalidomide in combination with low dose dexamethasone compared to thalidomide in combination with melphalan and prednisone. **Myelodysplastic syndromes** Baseline values including complex cytogenetics and TP53 mutation are associated with progression to AML in subjects who are transfusion dependent and have a del (5q) abnormality (see section 4.4 of the SPC). The estimated 2-year cumulative risk of progression to AML were 13.8% in patients with an isolated Del (5q) abnormality compared to 17.3% for patients with Del (5q) and one additional cytogenetic abnormality and 38.6% in patients with a complex karyotype. In a post-hoc analysis of a clinical trial of Revlimid in myelodysplastic syndromes, the estimated 2-year rate of progression to AML was 27.5 % in patients with IHC-p53 positive and 3.6% in patients with IHC-p53 negative (p=0.038). In the patients with IHC-p53 positive, a lower rate of progression to AML was observed amongst patients who achieved a transfusion independence (TI) response (11.1%) compared to a non-response (34.8%). **Hepatic disorders** The following post-marketing adverse reactions have been reported (frequency unknown): acute hepatic failure and cholestasis (both potentially fatal), toxic hepatitis, cytolytic hepatitis, mixed cytolytic/cholestatic hepatitis, **Rhabdomyolysis** Rare cases of rhabdomyolysis have been observed, some of them when lenalidomide is administered with a statin. **Thyroid disorders** Cases of hypothyroidism and cases of hyperthyroidism have been reported (see section 4.4 of the SPC Thyroid disorders). **Gastrointestinal disorders** Gastrointestinal perforations have been reported during treatment with lenalidomide. Gastrointestinal perforations may lead to septic complications and may be associated with fatal outcome. **Reporting of suspected adverse reactions** Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions to the Federal Agency for medicines and Health Products (FAHMP) via www.fgmp.at/links/berue. **MARKETING AUTHORISATION HOLDER** Celgene Europe Limited 1 Longwalk Road Stockley Park Uxbridge UB8 1UN United Kingdom **MARKETING AUTHORISATION NUMBER(s)** Revlimid 25 mg: EU/1/07/391/003 Revlimid 5 mg: EU/1/07/391/004 Revlimid 10 mg: EU/1/07/391/002 Revlimid 15 mg: EU/1/07/391/001 **MODE OF DELIVERY** Myelodysplastic syndromes product to medical profession. **DATE OF REVISION OF THE TEXT** 11/06/2015 Detailed information on this medicinal product is available on the website of the European Medicines Agency: <http://www.ema.europa.eu/>.



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