Management of Elderly Multiple Myeloma Patients

A Case Study

Case Presentation
78-Year-Old Female

- Patient was diagnosed with multiple myeloma 4 years previously
- Patient received MPB induction and achieved CR
- Patient remained well for over 2 years, and at 30 months post-induction relapsed
- Patient presented with acute knee pain, evaluation in the hematology clinic

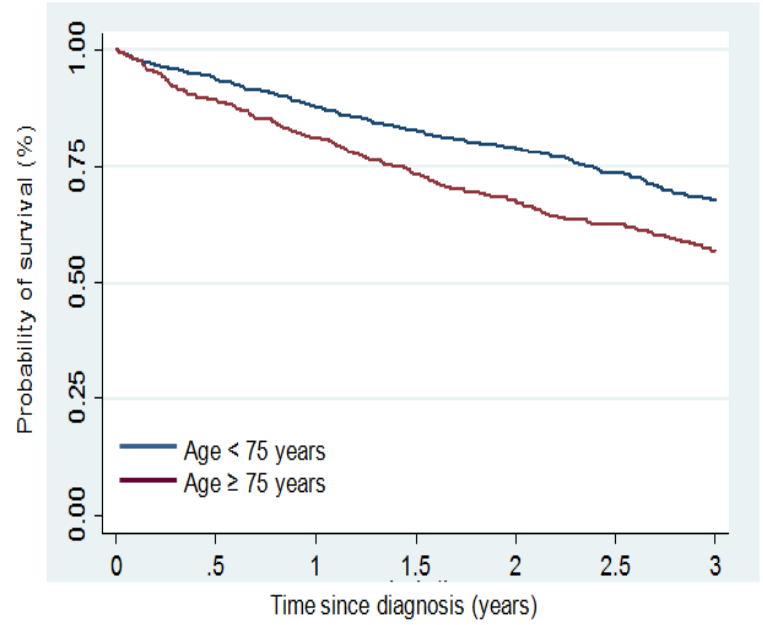
- Evaluations in the hematology clinic revealed
  - Skeletal survey: new massive lytic lesion in the femur
  - Immediate risk of fracture; several smaller lesions in spine
  - WBC 2.7 x 109/L
  - Hemoglobin 9.5 g/dL
  - Platelets 175 x 109/L
  - Creatinine 1.3 mg/dL
  - Albumin 2.8 g/dL
  - Serum protein electrophoresis: 25 g/L IgG-kappa
  - BM plasma cells: 18% plasma cells
  - β2M 3.2 mg/L

Patient diagnosed with relapsed multiple myeloma

MPB=melphalan, prednisone, bortezomib; CR=complete remission; WBC=white blood cells; BM=bone marrow

Age: Impact on Overall Survival

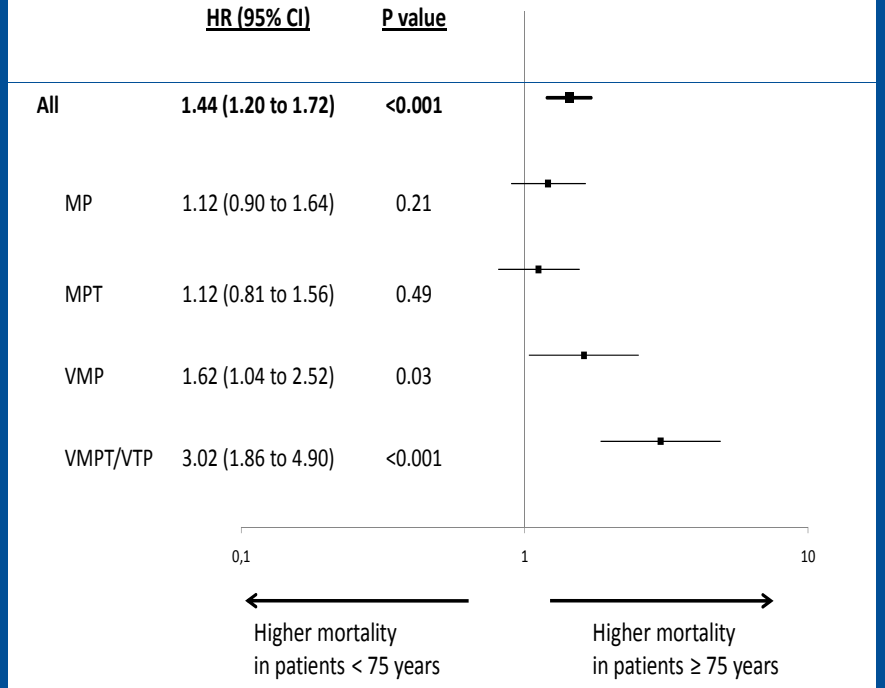
All patients



No. at Risk

Age < 75 years	917	838	779	728	621	458	304
Age ≥ 75 years	518	448	400	354	290	212	146

Treatment subgroups



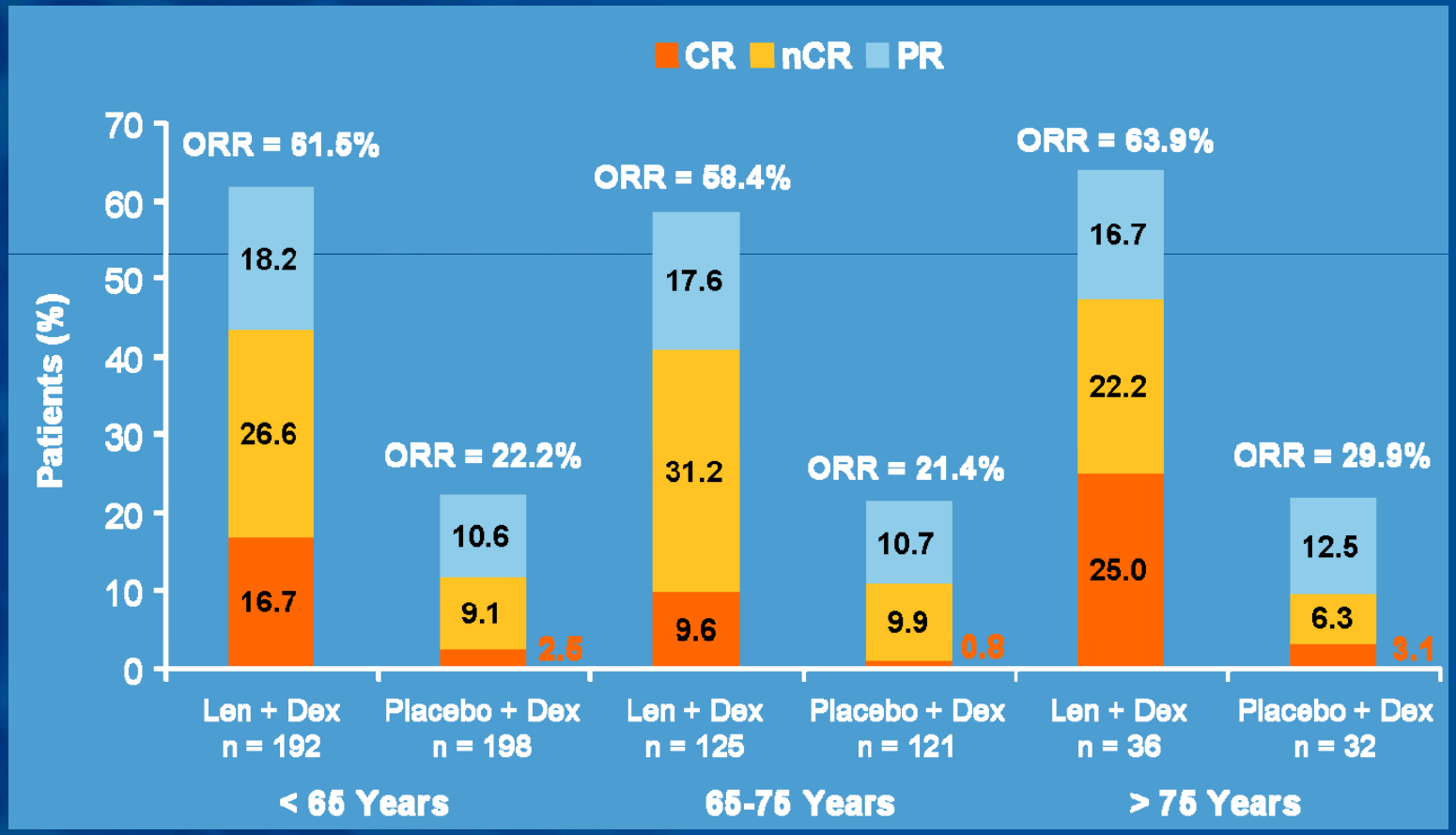
Bringhen S, et al. Manuscript in preparation.

Dose-intensity in Elderly Patients

	Combination	Single agent/ +Steroid
Discontinuation %		
65 - 75 years	17	10
> 75 years	34	16
Cumulative dose intensity %		
65 - 75 years	88	97
> 75 years	56	97

Palumbo A, et al. *Haematologica.* 2011;96(suppl.2):[abstract 0514].
Palumbo A, et al. *Blood.* 2011;118:Abstract 475.

The Effect of Age on Efficacy



nCR=near-complete response; PR=partial response; ORR=overall response rate; Len+Dex=lenalidomide, dexamethasone

Lonial S, et al. *Haematologica*. 2007;92:172. [abstract PO-663].

Frail Patients: Treatment Algorithm

RISK FACTORS		
- Age over 65 years		
- Mild, moderate or severe frailty: help needed for households and personal care		
go-go	***moderate-go***	***slow-go***
DOSE LEVEL 0	DOSE LEVEL – 1	DOSE LEVEL – 2
No risk factors	At least one risk factor	At least one risk factor + any G 3-4 nonhematologic AE

AE=adverse event

Palumbo A, et al. *Blood.* 2011;118(17):4519-4529.

Treatment Algorithm

DOSE LEVEL 0	*DOSE LEVEL −1*	*DOSE LEVEL −2*
Lenalidomide 25 mg/d d 1-21 / 4 wks	15 mg/d d 1-21 / 4 wks	10 mg/d d 1-21 / 4 wks
Thalidomide 100 mg/d	50 mg/d	50 mg/every other day
Bortezomib 1.3 mg/m^2 d 1, 8, 15, 22 / 5 wks	1.0 mg/m^2 d 1, 8, 15, 22 / 5 wks	1.3 mg/m^2 d 1, 15 / 4 wks
Melphalan 0.2 mg/kg/d d 1-4 / 5 wks	0.15 mg/kg d 1-4 / 5 wks	0.10 mg/kg d 1-4 / 5 wks
Prednisone 2 mg/kg/d d 1-4 / 5 wks	1.5 mg/kg/d d 1-4 / 5 wks	1 mg/kg/d d 1-4 / 5 wks

Palumbo A, et al *N Engl J Med*. 2011;364:1046-1060.

Age-Adjusted Dose Reductions

Drug	Age < 65 Years	Age 65-75 Years	Age > 75 Years
Dexamethasone	40 mg/day po D 1-4, 15-18 q 4 wk	40 mg/day po D 1, 8, 15, 22 q 4 wk	20 mg/day po D 1, 8, 15, 22 q 4 wk
Lenalidomide	25 mg/day po D 1-21 q 4 wk	15-25 mg/day po D 1-21 q 4 wk	10-25 mg/day po D 1-21 q 4 wk
Bortezomib	1.3 mg/m^2 IV D 1, 4, 8, 11 q 3 wk	1.3 mg/m^2 IV D 1, 4, 8, 11 q 3 wk	1-1.3 mg/m^2 IV D 1, 8, 15, 22 q 5 wk
Melphalan	0.25 mg/kg po D 1-4 q 6 wk	0.25 mg/kg po D 1-4 q 6 wk	0.18 mg/kg po D 1-4 q 6 wk

Palumbo A, et al *N Engl J Med*. 2011;364:1046-1060.

Patient Treatment

- Surgical stabilization of femur, radiotherapy of femur (30 Gy)
- Thromboprophylaxis (low molecular weight heparin)
- Patient was treated with Len + Dex
  - Lenalidomide: 25 mg once daily on days 1–21 of 28-day cycle
  - Dexamethasone: 40 mg once daily on days 1–4, 9–12, and 17–20 of each 28-day cycle for 4 cycles and then 40 mg once daily on days 1–4 every 28 days