New Analyses of Denosumab Pivotal Phase 3 Trials Reinforce Potential Advantages Over Standard of Care

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Integrated Analysis Shows Denosumab Superiority Over Zometa(R) In Delaying Or Preventing Skeletal Related Events In Broad Population With Advanced Cancer
Additional Analyses Demonstrate Denosumab Significantly Delays Onset And Worsening Of Bone Pain Over Zometa
Exploratory Analysis Shows Denosumab Superior To Zometa In Delaying Time To First Skeletal Related Event Or Hypercalcemia Of Malignancy

THOUSAND OAKS, Calif., June 5, 2010 /PRNewswire via COMTEX/ --Amgen (Nasdaq: AMGN) today announced positive results from several new analyses of two Phase 3 trials studying denosumab compared with Zometa(R) (zoledronic acid), the current standard of care, for the treatment of bone metastases in patients with advanced breast cancer ("136 study") and solid tumors or multiple myeloma ("244 study"). Results from these trials reinforce denosumab's consistent ability to delay the complications of bone metastases in patients with advanced cancer. These results are being presented during the 2010 American Society of Clinical Oncology (ASCO) Annual Meeting in Chicago.

Integrated Analysis Shows Denosumab Superiority in Delaying or Preventing Skeletal Related Events in a Broad Population with Advanced Cancer(Oral Presentation 9015)

An integrated analysis of the 136 and 244 studies was performed to further evaluate the efficacy of denosumab and understand treatment effects in key sub-groups. The analysis demonstrated that denosumab was superior to Zometa in delaying or preventing skeletal related events (SREs). Denosumab delayed the time to first on-study SRE over Zometa (hazard ratio 0.83, 95 percent CI: 0.74, 0.92; P=0.001), and delayed the time to first-and-subsequent SREs (hazard ratio 0.82, 95 percent CI: 0.74, 0.91; P=0.001). Denosumab also reduced the mean skeletal morbidity rate (number of SREs per year) versus Zometa (0.64 versus 0.80; P=0.0006).

"Bone metastases are a major clinical concern and cause significant suffering to our advanced cancer patients. Since these two large head-to-head studies were identically designed, we were able to combine the data to obtain a broader view of denosumab's effect compared to the current standard of care in a diverse group of patients with advanced cancer," said Allan Lipton, M.D., professor of Medicine & Oncology, M.S. Hershey Medical Center of the Pennsylvania State University. "Due to its strong efficacy profile, no need for renal monitoring, and convenient subcutaneous dosing, denosumab provides a significant improvement over the standard of care for preventing skeletal related events."

Overall, adverse events (AEs; 96 percent denosumab, 97 percent Zometa), and serious AEs (53 percent denosumab, 56 percent Zometa) were similar in both groups and consistent with what has previously been reported for these two agents. Osteonecrosis of the jaw (ONJ) occurred in 30 (1.6 percent) denosumab patients and 25 (1.3 percent) Zometa patients. In addition, Zometa-treated patients had increased rates of AEs potentially associated with renal toxicity (6.5 percent denosumab, 9.6 percent Zometa) and with acute phase reactions (8.8 percent denosumab, 21.4 percent Zometa). As with previous studies in advanced cancer patients, hypocalcemia was more frequent in the denosumab arm. Both overall survival (hazard ratio 0.95, 95 percent CI: 0.86, 1.05; P=0.35) and the time to cancer progression (hazard ratio 1.00, 95 percent CI: 0.92, 1.08; P=0.90) were balanced between treatment arms. The most common AEs for denosumab were nausea, fatigue and dyspnea, and the most common AEs for Zometa were nausea, fatigue, and anemia.

Sub-Analysis Shows Denosumab Superior to Zometa in Solid Tumor Subset of the 244 Study (Abstract 9133)

A post-hoc subset analysis of the 244 study evaluated patients with solid tumors only. This analysis showed that denosumab was superior to Zometa in delaying the time to the first on-study SRE (hazard ratio 0.81, 95 percent CI: 0.68, 0.96; P<0.02); and for delaying the time to first and subsequent SREs (multiple events) (hazard ratio 0.85, 95 percent CI: 0.72, 1.00; P<0.05). Both treatment groups had similar rates of overall survival (hazard ratio 0.92, 95 percent CI: 0.81, 1.05; P=0.21), disease progression (hazard ratio 0.96, 95 percent CI: 0.85, 1.08; P<0.5), and overall AEs (denosumab 95.6 percent, Zometa 95.5 percent). Zometa-treated patients reported higher rates of AEs potentially associated with renal toxicity (denosumab 7.1 percent, Zometa 10.3 percent) and acute phase reactions (denosumab 7.1 percent, Zometa 14.8 percent). Denosumab-treated patients had higher rates of hypocalcemia of grades 3 or 4 (denosumab 4 percent, Zometa 2 percent). Both treatment groups reported similarly low rates of ONJ (denosumab 0.8 percent, Zometa 1.1 percent).

Additional Analyses Show Denosumab Significantly Delays Onset and Worsening of Bone Pain Over Zometa (Abstracts 1024 and 9053)

Two additional pre-specified exploratory analyses presented at the meeting show denosumab treatment significantly delayed the onset or worsening of bone pain in both the 136 and 244 studies. These are the most comprehensive analyses of pain measures from the denosumab trial program in SREs to be presented to date.

Bone pain is one of the first signs that metastatic disease has spread to the skeleton and affects approximately 70 percent of patients with metastatic disease.[i] Bone pain dominates the daily lives of patients with metastatic disease and is often characterized as severe or intolerable.[ii]

In the 136 study, denosumab significantly extended the time breast cancer patients had no or mild pain, when compared to Zometa. In addition, fewer denosumab patients experienced worsening of pain. Patients with scores of no or mild pain at baseline (n=1042) experienced a prolonged median time to development of moderate to severe pain with denosumab (295 days) compared with Zometa (176 days) (hazard ratio 0.78, 95 percent CI: 0.67, 0.92; P=0.0024) (Abstract 1024).

In the 244 trial of patients with advanced solid tumors (excluding breast and prostate) or multiple myeloma, denosumab-treated patients also experienced a delay in clinically significant worsening of pain compared with patients on Zometa (median 169 days: denosumab, 143 days: Zometa; hazard ratio 0.85, 95 percent CI: 0.73, 0.98; P=0.02). In addition, among patients with no or mild pain at baseline, fewer denosumab-treated patients

reported moderate to severe pain than Zometa-treated patients (Abstract 9053).

Exploratory Analysis Shows Denosumab Superior to Zometa in Delaying Time to First SRE or Hypercalcemia of Malignancy (Abstract 9042)

A pre-specified exploratory analysis of the 244 trial found that patients receiving denosumab also experienced a significantly longer time to first SRE or hypercalcemia of malignancy, a severe and sudden increase of calcium in the bones that has a very poor prognosis[iii] (19.0 months denosumab versus 14.4 months Zometa, hazard ratio 0.83, 95 percent CI: 0.71, 0.97; P=0.02). In another pre-specified exploratory analysis, denosumab also delayed the need to administer radiation to bone, a treatment for bone metastasis (hazard ratio 0.78, 95 percent CI: 0.63, 0.97; P=0.03). This poster was selected as "Best of ASCO" for 2010.

Adverse Events in Study 136

Overall, the incidence of AEs (96 percent denosumab, 97 percent Zometa) and serious AEs (44 percent denosumab, 46 percent Zometa) was consistent with what has previously been reported for these two agents. AEs potentially associated with renal toxicity occurred in 4.9 percent of patients treated with denosumab compared to 8.5 percent in patients treated with Zometa. ONJ was seen infrequently in both treatment groups (20 patients receiving denosumab (2.0 percent) as compared with 14 patients (1.4 percent) receiving Zometa). There was no statistically significant difference in the rate of ONJ between the two treatment arms. Infectious AEs were balanced between the two treatment arms. Overall survival (hazard ratio 0.95, 95 percent CI: 0.81, 1.11; P=0.49) and time to cancer progression (hazard ratio 1.00, 95 percent CI: 0.89, 1.11; P=0.93) were balanced between treatment arms.

Adverse Events in Study 244

AEs rates (96 percent denosumab, 96 percent Zometa) and serious AEs (63 percent denosumab, 66 percent Zometa) were similar between groups and were consistent with what has previously been reported for these two agents. Rates of ONJ were balanced and infrequent in both treatment groups (10 patients receiving denosumab as compared with 11 patients receiving Zometa). Infectious AEs were balanced between the two treatment arms (hazard ratio 0.95, 95 percent CI: 0.83, 1.08; P=0.43), as were the time to cancer progression (hazard ratio 1.00, 95 percent CI: 0.89, 1.12; P=1.0) and overall survival (hazard ratio 0.95, 95 percent CI: 0.83, 1.08; P=0.43). In an ad-hoc analysis, there was a difference in overall survival that favored denosumab in non-small cell lung cancer and a difference in overall survival that favored Zometa in multiple myeloma, which were both nominally statistically significant.

About Studies 136 and 244

Studies 136 and 244 were international, Phase 3, randomized, double-blind studies comparing denosumab with Zometa in the treatment of bone metastases in patients with advanced breast cancer (study 136) and advanced cancer (excluding breast and prostate cancer) or multiple myeloma (study 244). Patients enrolled in the studies were randomized in a one-to-one ratio to receive either 120 mg of denosumab subcutaneously every four weeks (Q4W) or Zometa administered intravenously at a dose of 4 mg in a 15 minute infusion every four weeks as per the label instructions.

In clinical trials testing new medications for bone metastases, treatment success has been measured by whether the bone complications, or SREs, caused by the tumor are reduced or delayed. The primary and secondary endpoints of both 136 and 244 use a composite endpoint of four SREs - fracture, the need for radiation to bone, the need for bone surgery, and spinal cord compression - to measure the effectiveness of denosumab versus Zometa.

The primary endpoint of the studies was to evaluate if denosumab is non-inferior to Zometa with respect to the first, on-study SRE in patients with advanced breast cancer and bone metastases. Secondary endpoints were to evaluate if denosumab was superior to Zometa with respect to the first, on-study SRE, as well as the first-and-subsequent on-study SREs, and to assess the safety and tolerability of denosumab compared with Zometa.

Webcast Information

Amgen will hold an analyst/investor event at a local venue in Chicago on Monday, June 7 at 7:30 p.m. Central Time to discuss data presented at ASCO. A webcast of the event can be found on Amgen's website at http://www.amgen.com/, under Investors. The audio webcast will be archived and available for replay for at least 72 hours.

Bone Metastases: Prevalence and Impact

Bone metastases occur in more than 1.5 million patients with cancer worldwide and are most commonly associated with cancers of the prostate, lung, and breast, with incidence rates as high as 75 percent of patients with metastatic disease.[iv]

The economic burden of United States (U.S.) patients with bone metastases is significant and is estimated to be $12.6 billion annually[v]. Patients with bone metastases who experience an SRE incur significantly higher medical costs compared with those who do not experience an SRE[vi].

About Denosumab and Amgen's Research in Bone Biology

Denosumab is the first fully human monoclonal antibody in late stage clinical development that specifically targets RANK Ligand, the essential regulator of osteoclasts (the cells that break down bone). The denosumab development program is the largest ever initiated by Amgen. This broad and deep development program demonstrates Amgen's commitment to researching and delivering pioneering medicines to patients with unmet medical needs. Amgen is studying denosumab in numerous tumor types across the spectrum of cancer-related bone diseases. Over 11,000 patients have been enrolled in the denosumab oncology clinical trials, testing the drug for the reduction of SREs in patients with breast and prostate cancer, as well as other solid tumors and multiple myeloma, for the amelioration of treatment-induced bone loss in patients with non-metastatic breast or prostate cancers, and for its potential to delay bone metastases in prostate cancer.

About Amgen

Amgen discovers, develops, manufactures and delivers innovative human therapeutics. A biotechnology pioneer since 1980, Amgen was one of the first companies to realize the new science's promise by bringing safe and effective medicines from lab, to manufacturing plant, to patient. Amgen therapeutics have changed the practice of medicine, helping millions of people around the world in the fight against cancer, kidney disease, rheumatoid arthritis, and other serious illnesses. With a deep and broad pipeline of potential new medicines, Amgen remains committed to advancing

science to dramatically improve people's lives. To learn more about our pioneering science and our vital medicines, visit http://www.amgen.com/.

Forward-Looking Statements

This news release contains forward-looking statements that are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and assumptions that could cause actual results to differ materially from those described. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements, including estimates of revenues, operating margins, capital expenditures, cash, other financial metrics, expected legal, arbitration, political, regulatory or clinical results or practices, customer and prescriber patterns or practices, reimbursement activities and outcomes and other such estimates and results. Forward-looking statements involve significant risks and uncertainties, including those discussed below and more fully described in the Securities and Exchange Commission (SEC) reports filed by Amgen, including Amgen's most recent annual report on Form 10-K and most recent periodic reports on Form 10-Q and Form 8-K. Please refer to Amgen's most recent Forms 10-K, 10-Q and 8-K for additional information on the uncertainties and risk factors related to our business. Unless otherwise noted, Amgen is providing this information as of June 5, 2010 and expressly disclaims any duty to update information contained in this news release.

No forward-looking statement can be guaranteed and actual results may differ materially from those we project. Discovery or identification of new product candidates or development of new indications for existing products cannot be guaranteed and movement from concept to product is uncertain; consequently, there can be no guarantee that any particular product candidate or development of a new indication for an existing product will be successful and become a commercial product. Further, preclinical results do not guarantee safe and effective performance of product candidates in humans. The complexity of the human body cannot be perfectly, or sometimes, even adequately modeled by computer or cell culture systems or animal models. The length of time that it takes for us to complete clinical trials and obtain regulatory approval for product marketing has in the past varied and we expect similar variability in the future. We develop product candidates internally and through licensing collaborations, partnerships and joint ventures. Product candidates that are derived from relationships may be subject to disputes between the parties or may prove to be not as effective or as safe as we may have believed at the time of entering into such relationship. Also, we or others could identify safety, side effects or manufacturing problems with our products after they are on the market. Our business may be impacted by government investigations, litigation and products liability claims. We depend on third parties for a significant portion of our manufacturing capacity for the supply of certain of our current and future products and limits on supply may constrain sales of certain of our current products and product candidate development.

In addition, sales of our products are affected by the reimbursement policies imposed by third-party payors, including governments, private insurance plans and managed care providers and may be affected by regulatory, clinical and guideline developments and domestic and international trends toward managed care and health care cost containment as well as U.S. legislation affecting pharmaceutical pricing and reimbursement. Government and others' regulations and reimbursement policies may affect the development, usage and pricing of our products. In addition, we compete with other companies with respect to some of our marketed products as well as for the discovery and development of new products. We believe that some of our newer products, product candidates or new indications for existing products, may face competition when and as they are approved and marketed. Our products may compete against products that have lower prices, established reimbursement, superior performance, are easier to administer, or that are otherwise competitive with our products. In addition, while we routinely obtain patents for our products and technology, the protection offered by our patents and patent applications may be challenged, invalidated or circumvented by our competitors and there can be no guarantee of our ability to obtain or maintain patent protection for our products or product candidates. We cannot guarantee that we will be able to produce commercially successful products or maintain the commercial success of our existing products. Our stock price may be affected by actual or perceived market opportunity, competitive position, and success or failure of our products or product candidates. Further, the discovery of significant problems with a product similar to one of our products that implicate an entire class of products could have a material adverse effect on sales of the affected products and on our business and results of operations.

The scientific information discussed in this news release relating to new indications for our products is preliminary and investigative and is not part of the labeling approved by the U.S. Food and Drug Administration (FDA) for the products. The products are not approved for the investigational use(s) discussed in this news release, and no conclusions can or should be drawn regarding the safety or effectiveness of the products for these uses. Only the FDA can determine whether the products are safe and effective for these uses. Healthcare professionals should refer to and rely upon the FDA-approved labeling for the products, and not the information discussed in this news release.

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