

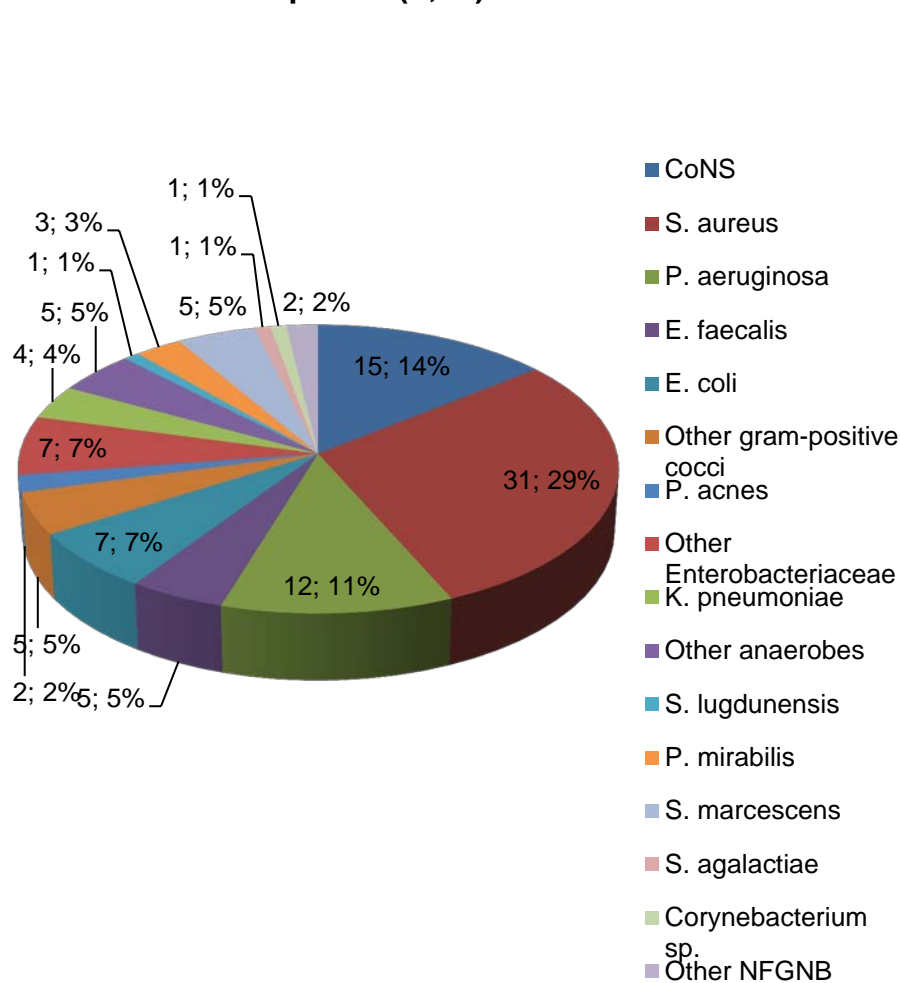
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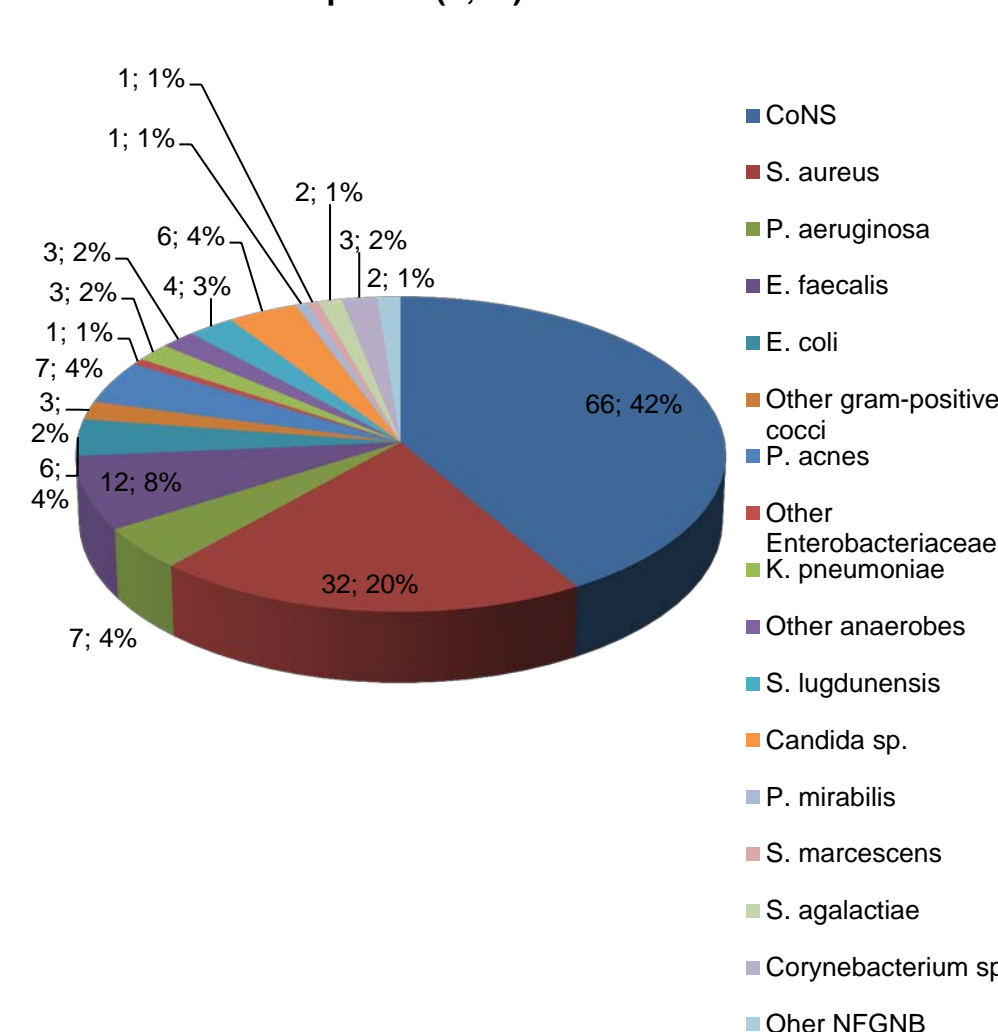
Background: The knowledge of the etiology of prosthetic joint infections (PJI) is essential for an optimal management of the patients. We retrospectively analysed the etiology of acute, hematogenous or delayed PJI in several hospitals from an homogeneous health zone in Spain, with special interest in the detection of clinically relevant resistances among the isolated microorganisms.

Material/methods: Microbiology databases from 12 hospitals from Madrid Community, Spain were searched for detection of positive results from samples submitted for diagnosis of PJI during the year 2014. Interpretation of cultures was performed according to the criteria of Atkins et al, and the clinical diagnosis was performed according to the IDSA published criteria. During this period, 5 of the hospitals included implant sonication as part of their laboratory methods. All other samples were processed according to commonly accepted procedures. Identification and susceptibility testing were also performed according commonly accepted methods.

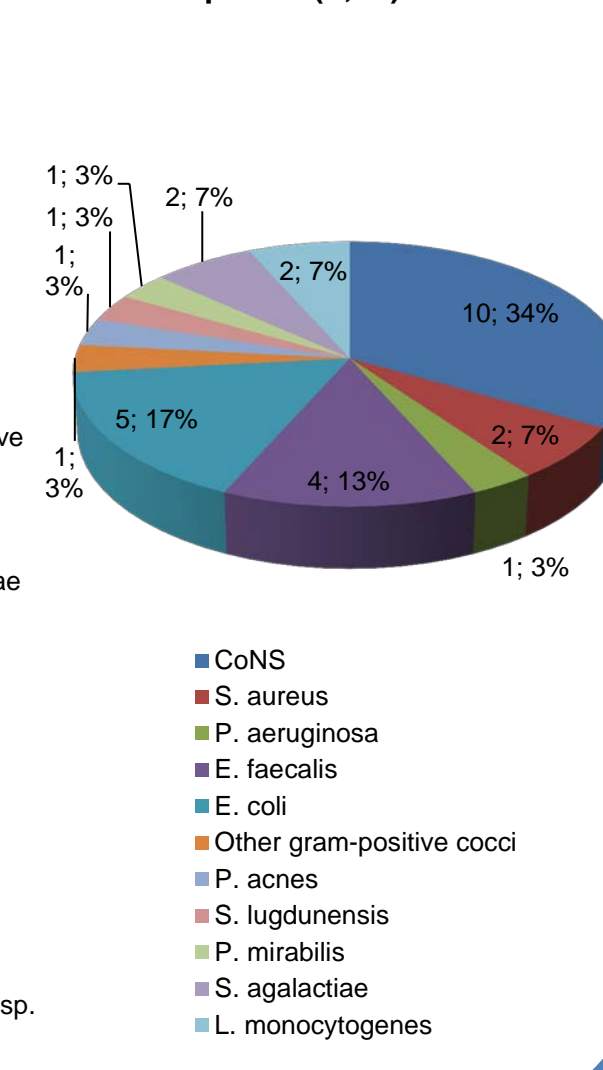
Acute infections (n=106)
Species (n; %)



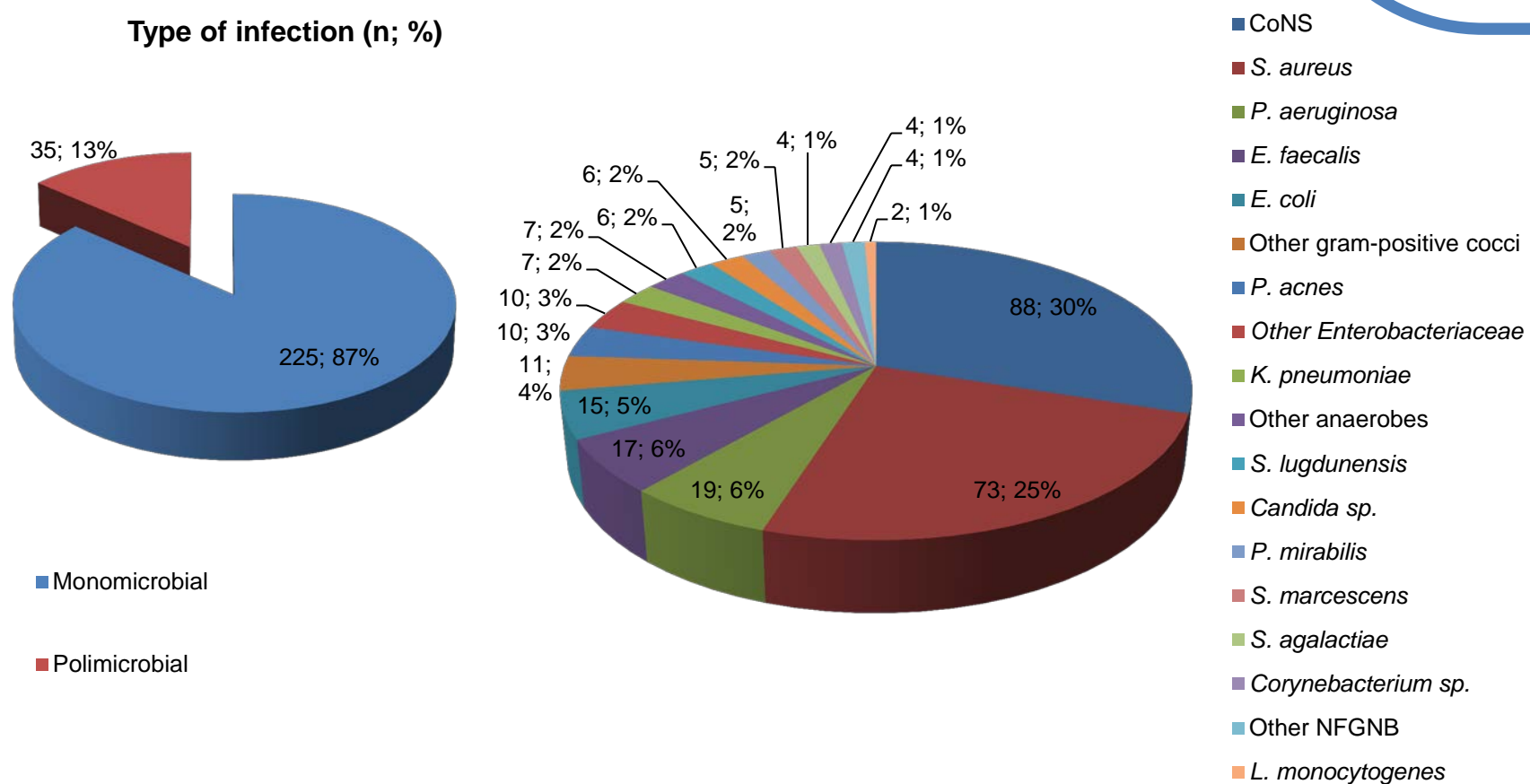
Chronic infections (n=159)
Species (n; %)



Hematogenous infections (n=30)
Species (n; %)



Type of infection:
species (n; %)



Results: During the study period 260 patients were diagnosed of PJI (131 women). Mean age of them was 72.9 years (range 16-95). Affected joints were hip (127), knee (120), shoulder (11), elbow (1) and hip and knee simultaneously in 1 case. 95 were acute infections, 142 delayed and 27 hematogenous. No differences between these typed were found for the affected joint, sex or age. 35 polymicrobial infections were diagnosed (17 acute, 16 delayed and 2 hematogenous). The isolated organisms (295 strains) appear in the figures. 61 organisms (21.1% of all bacterial strains) had clinically relevant resistance, including 4 ESBL-producing *Enterobacteriaceae*, 16 MRSA, 1 Vancomycin-R *Enterococcus*, 2 imipenem-resistant *P. aeruginosa* and 1 carbapenemase-producing *K. pneumoniae*.

Conclusions: Although delayed and hematogenous infections are caused mainly by staphylococci and other Gram-positive cocci, acute infections are caused by a broad spectrum of organisms. While polymicrobial infections are not frequently detected, the high percentage of clinically relevant resistances increases the concern about the future evolution of this problem among PJI patients.