

6 Literatur

1. Adema GJ, Baas PD. A novel calcitonin-encoding mRNA is produced by alternative processing of calcitonin/calcitonin gene-related peptide-I pre-mRNA. *J Biol Chem* 1992; 267: 7943-7948
2. Al-Nawas B, Krammer I, Shah PM. Procalcitonin in diagnosis of severe infections. *Eur J Med Res* 1995; 1: 331-333
3. Al-Nawas B, Shah PM. Procalcitonin in patients with and without immunosuppression and sepsis. *Infection* 1996; 24: 434-436
4. Al-Nawas B, Shah PM. Procalcitonin in acute malaria. *Eur J Med Res* 1997; 2: 206-208
5. Ammori BJ, Becker K, Kite P, McMahon MJ, Snider RH, Nylén ES, White JC. Aminoprocaltitonin: a new prognostic marker in acute pancreatitis. 38th Annual ICAAC, San Diego 1998 [Abstrakt]
6. Aouifi A, Piriou V, Bastien O, Blanc P, Bouvier H, Evans R, Célard M, Vandenesch F, Rousson R, Lehot JJ. Usefulness of procalcitonin for diagnosis of infection in cardiac surgical patients. *Crit Care Med* 2000; 28: 3171-3176
7. Aouifi A, Piriou V, Blanc P, Bouvier H, Bastien O, Chiari P, Rousson R, Evans R, Lehot JJ. Effect of cardiopulmonary bypass on serum procalcitonin and C-reactive protein concentrations. *Br J Anaesth* 1999; 83: 602-607
8. Arnalich F, Sánchez JF, Martínez M, Jiménez M, López J, Vázquez JJ, Hernanz A. Changes in plasma concentrations of vasoactive neuropeptides in patients with sepsis and septic shock. *Life Sci* 1995; 56: 75-81
9. Assicot M, Gendrel D, Carsin H, Raymond J, Guilbaud J, Bohuon C. High serum procalcitonin concentrations in patients with sepsis and infection. *Lancet* 1993; 341: 515-518
10. Assumma M, Signore F, Pacifico L, Rossi N, Osborn JF, Chiesa C. Serum procalcitonin concentrations in term delivering mothers and their healthy offspring: A longitudinal study. *Clin Chem* 2000; 46: 1583-1587
11. Beaune G, Bienvenu F, Pondarré C, Monneret G, Bienvenu J, Souillet G. Serum procalcitonin rise is only slight in two cases of disseminated aspergillosis. *Infection* 1998; 26: 168-169
12. Becker KL, Nylén ES, Cohen R, Silva OL, Snider RH. Calcitonin gene family of peptides. In: Becker KL, ed. *Principles and Practice of Endocrinology and Metabolism*. Philadelphia: JB Lippincott, 1995: 474-483
13. Becker KL, Nylén ES, Cohen R, Snider RH. Calcitonin: Structure, molecular biology, and actions. In: Bilezikian JP, Raisz LG, Rodan GA, ed. *Principles of bone biology*. San Diego: Academic Press, 1996: 471-494
14. Becker KL, O'Neil WJ, Snider RH, Nylén ES, Moore CF, Jeng J, Silva OL, Lewis MS, Jordan MH. Hypercalcitonemia in inhalation burn injury: A response of the pulmonary neuroendocrine cell ? *Anat Rec* 1993; 236: 136-138

15. Becker KL, Snider RH, Moore CF, Monaghan KG, Silva OL. Calcitonin in extrathyroidal tissues of man. *Acta Endocrinol (Copenh)* 1979; 92: 746-751
16. Benador N, Siegrist C-A, Gendrel D, Greder C, Benador D, Assicot M, Bohuon C, Girardin E. Procalcitonin is a marker of severity of renal lesions in pyelonephritis. *Pediatrics* 1998; 102: 1422-1425
17. Benoist JF, Mimos O, Assicot M, Edouard A. Serum procalcitonin, but not C-reactive protein, identifies sepsis in trauma patients. *Clin Chem* 1998; 44: 1778-1779
18. Birnbaum RS, Mahoney WC, Burns DM, O'Neill JA, Miller RE, Roos BA. Identification of procalcitonin in a rat medullary thyroid carcinoma cell line. *J Biol Chem* 1984; 259: 2870-2874
19. Bitkover CY, Hansson L-O, Valen G, Vaage J. Effect of cardiac surgery on some clinically used inflammation markers and procalcitonin. *Scand Cardiovasc J* 2000; 34: 307-314
20. Boeken U, Feindt P, Petzold T, Klein M, Micek M, Seyfert UT, Mohan E, Schulte HD, Gams E. Diagnostic value of procalcitonin: the influence of cardiopulmonary bypass, aprotinin, SIRS, and sepsis. *Thorac Cardiovasc Surg* 1998; 46: 348-351
21. Bohuon C. Procalcitonin – A new innovative sepsis marker. *Intensive Care Med* 1994; 20 (Suppl 1): S 102 [Abstrakt]
22. Bonac B, Derganc M, Wraber B, Hojker S. Interleukin-8 and procalcitonin in early diagnosis of severe bacterial infection in critically ill neonates. *Pflügers Arch Eur J Physiol* 2000; 440 (Suppl): R72-R74
23. Born W, Beglinger C, Fischer JA. Diagnostic relevance of the amino-terminal cleavage peptide of procalcitonin (PAS-57), calcitonin and calcitonin gene-related peptide in medullary thyroid carcinoma patients. *Regul Pept* 1991; 32: 311-319
24. Bossink AWJ, Groeneveld ABJ, Thijs LG. Prediction of microbial infection and mortality in medical patients with fever: Plasma procalcitonin, neutrophilic elastase- α_1 -antitrypsin, and lactoferrin compared with clinical variables. *Clin Infect Dis* 1999; 29: 398-407
- 24a. Boyd JC. Mathematical tools for demonstrating the clinical usefulness of biochemical markers. *Scand J Clin Lab Invest* 1997; 57 (Suppl 227): 46-63
25. Brunkhorst FM, Clark AL, Forycki ZF, Anker SD. Pyrexia, procalcitonin, immune activation and survival in cardiogenic shock: the potential importance of bacterial translocation. *Int J Cardiol* 1999; 72: 3-10
26. Brunkhorst FM, Eberhard OK, Brunkhorst R. Discrimination of infectious and noninfectious causes of early acute respiratory distress syndrome by procalcitonin. *Crit Care Med* 1999; 27: 2172-2176
27. Brunkhorst FM, Heinz U, Forycki ZF. Kinetics of procalcitonin in iatrogenic sepsis. *Intensive Care Med* 1998; 24: 888-889 [Letter]
28. Burns DM, Birnbaum RS, Roos BA. A neuroendocrine peptide derived from the amino-terminal half of rat procalcitonin. *Mol Endocrinol* 1989; 3: 140-147

29. Burns DM, Forstrom JM, Friday KE, Howard GA, Roos BA. Procalcitonin's amino-terminal cleavage peptide is a bone-cell mitogen. *Proc Natl Acad Sci* 86: 9519-9523
30. Burns DM, Howard GA, Roos BA. An assessment of the anabolic skeletal actions of the common-region peptides derived from the CGRP and calcitonin prohormones. In: Taché Y, Holzer P, Rosenfeld MG. Calcitonin gene-related peptide. *Ann New York Acad Sci* 1992; 657: 50-62
31. Canale DD, Donabedian RK. Hypercalcitoninemia in acute pancreatitis. *J Clin Endocrinol Metab* 1975; 40: 738-741
32. Carsin H, Assicot M, Feger F, Roy O, Pennacino I, Le Bever H, Ainaud P, Bohuon C. Evolution and significance of circulating procalcitonin levels compared with IL-6, TNF α and endotoxin levels early after thermal injury. *Burns* 1997; 23: 218-224
33. Cate CC, Pettengill OS, Sorenson GD. Biosynthesis of procalcitonin in small cell carcinoma of the lung. *Cancer Res* 1986; 46: 812-818
34. Chesney RW, McCarron DM, Haddad JG, Hawker CD, Dibella FP, Chesney PJ, Davis JP. Pathogenic mechanisms of the hypocalcemia of the staphylococcal toxic-shock syndrome. *J Lab Clin Med* 1983; 101: 576-585
35. Cheval C, Timsit JF, Garrouste-Orgeas M, Assicot M, De Jonghe B, Misset B, Bohuon C, Carlet J. Procalcitonin (PCT) is useful in predicting the bacterial origin of an acute circulatory failure in critically ill patients. *Intensive Care Med* 2000; 26: 153-158
36. Chiesa C, Pacifico L, Mancuso G, Panero A. Procalcitonin in pediatrics: Overview and challenge. *Infection* 1998; 26: 236-241
37. Chiesa C, Panero A, Rossi N, Stegagno M, De Giusti M, Osborn JF, Pacifico L. Reliability of procalcitonin concentrations for the diagnosis of sepsis in critically ill neonates. *Clin Infect Dis* 1998; 26: 664-672
38. Chrétien M, Seidah NG. Precursor polyproteins in endocrine and neuroendocrine systems. *Int J Peptide Protein Res* 1984; 23: 335-341
39. Collyear K, Girgis SI, Saunders G, MacIntyre I, Holt G. Predicted structure of the bovine calcitonin gene-related peptide and the carboxy-terminal flanking peptide of bovine calcitonin precursor. *J Mol Endocrinol* 1991; 6: 147-152
40. Conlon JM. Post-translation processing of neurohormonal peptide precursors in a human medullary thyroid carcinoma. *Horm Metab Res* 1989; 21: 12-15
41. Conlon JM, Grimelius L, Thim L. Structural characterization of a high-molecular-mass form of calcitonin [procalcitonin-(60-116)-peptide] and its corresponding N-terminal flanking peptide [procalcitonin-(1-57)-peptide] in a human medullary thyroid carcinoma. *Biochem J* 1988; 256: 245-250
42. Coombes RC, Hillyard C, Greenberg PB, MacIntyre I. Plasma-immunoreactive-calcitonin in patients with non-thyroid tumours. *Lancet* 1974; 1: 1080-1083
43. Dandona P, Nix D, Wilson MF, Aljada A, Love J, Assicot M, Bohuon C. Procalcitonin increase after endotoxin injection in normal subjects. *J Clin Endocrinol Metab* 1994; 79: 1605-1608

44. Davis TME, Assicot M, Bohuon C, St John A, Li GQ, Anh TK. Serum procalcitonin concentrations in acute malaria. *Trans R Soc Trop Med Hyg* 1994; 88: 670-671
45. De Bastiani G, Mosconi F, Spagnol G, Nicolato A, Ferrari S, Aprili F. High calcitonin levels in unconscious polytrauma patients. *J Bone Joint Surg [Br]* 1992; 74-B: 101-104
46. De Werra I, Jaccard C, Corradin SB, Chioléro R, Yersin B, Gallati H, Assicot M, Bohuon C, Baumgartner J-D, Glauser MP, Heumann D. Cytokines, nitrite/nitrate, soluble tumor necrosis factor receptors, and procalcitonin concentrations: Comparisons in patients with septic shock, cardiogenic shock, and bacterial pneumonia. *Crit Care Med* 1997; 25: 607-613
47. Eberhard OK, Haubitz M, Brunkhorst FM, Kliem V, Koch KM, Brunkhorst R. Usefulness of procalcitonin for differentiation between activity of systemic autoimmune disease (systemic lupus erythematosus/systemic antineutrophil cytoplasmic antibody-associated vasculitis) and invasive bacterial infection. *Arthritis Rheum* 1997; 40: 1250-1256
48. Eberhard OK, Langefeld I, Kuse ER, Brunkhorst FM, Kliem V, Schlitt HJ, Pichlmayr R, Koch KM, Brunkhorst R. Procalcitonin in the early phase after renal transplantation - will it add to diagnostic accuracy? *Clin Transplant* 1998; 12: 206-211
49. Erren M, Reinecke H, Junker R, Fobker M, Schulte H, Schurek JO, Kropf J, Kerber S, Breithardt G, Assmann G, Cullen P. Systemic inflammatory parameters in patients with atherosclerosis of the coronary and peripheral arteries. *Arterioscler Thromb Vasc Biol* 1999; 19: 2355-2363
50. Espinosa-Morales R, Escalante A. Use of procalcitonin as a diagnostic test: comment on the article by Eberhard et al. *Arthritis Rheum* 1998; 41: 567-568 [Letter]
51. Franco-Cereceda A, Henke H, Lundberg JM, Petermann JB, Hökfelt T, Fischer JA. Calcitonin gene-related peptide (CGRP) in capsaicin-sensitive substance P-immunoreactive sensory neurons in animals and man: Distribution and release by capsaicin. *Peptides* 1987; 8: 399-410
52. Franz AR, Kron M, Pohlandt F, Steinbach G. Comparison of procalcitonin with interleukin 8, C-reactive protein and differential white blood cell count for the early diagnosis of bacterial infections in newborn infants. *Pediatr Infect Dis J* 1999; 18: 666-671
53. Garner JS, Jarvis WR, Emori TG, Horan TC, Hughes JM. CDC definitions for nosocomial infections, 1988. *Am J Infect Control* 1988; 16: 128-140
54. Gendrel D, Assicot M, Raymond J, Moulin F, Francoual C, Badoual J, Bohuon C. Procalcitonin as a marker for the early diagnosis of neonatal infection. *J Pediatr* 1996; 128: 570-573
55. Gendrel D, Bohuon C. Procalcitonin, a marker of bacterial infection. *Infection* 1997; 25: 133-134 [Editorial]
56. Gendrel D, Raymond J, Assicot M, Moulin F, Iniguez J-L, Lebon P, Bohuon C. Measurement of procalcitonin levels in children with bacterial or viral meningitis. *Clin Infect Dis* 1997; 24: 1240-1242

57. Gendrel D, Raymond J, Coste J, Moulin F, Lorrot M, Guérin S, Ravilly S, Lefèvre H, Royer C, Lacombe C, Palmer P, Bohuon C. Comparison of procalcitonin with C-reactive protein, interleukin 6 and interferon- α for differentiation of bacterial vs. viral infections. *Pediatr Infect Dis J* 1999; 18: 875-881
58. Gérard Y, Hober D, Assicot M, Alfandari S, Ajana F, Bourez JM, Chidiac C, Mouton Y, Bohuon C, Wattré P. Procalcitonin as a marker of bacterial sepsis in patients infected with HIV-1. *J Infect* 1997; 35: 41-46
59. Gérard Y, Hober D, Petitjean S, Assicot M, Bohuon C, Mouton Y, Wattré P. High serum procalcitonin level in a 4-year-old liver transplant recipient with a disseminated candidiasis. *Infection* 1995; 23: 310-311
60. Ghillani P, Motté P, Bohuon C, Bellet D. Monoclonal antipeptide antibodies as tools to dissect closely related gene products. *J Immunol* 1988; 141: 3156-3163
61. Ghillani PP, Motté P, Troalen F, Jullienne A, Gardet P, Le Chevalier T, Rougier P, Schlumberger M, Bohuon C, Bellet D. Identification and measurement of calcitonin precursors in serum of patients with malignant diseases. *Cancer Res* 1989; 49: 6845-6851
62. Gillquist J, Larsson J, Sjö Dahl R. Serum calcitonin in acute pancreatitis in man. *Scand J Gastroent* 1977; 12: 21-25
63. Girgis SI, MacDonald DWR, Stevenson JC, Bevis PJR, Lynch C, Wimalawansa SJ, Self CH, Morris HR, MacIntyre I. Calcitonin gene-related peptide: potent vasodilator and major product of calcitonin gene. *Lancet* 1985; 2: 14-16
64. Gkonos PJ, Born W, Jones BN, Petermann JB, Keutmann HT, Birnbaum RS, Fischer JA, Roos BA. Biosynthesis of calcitonin gene-related peptide and calcitonin by a human medullary thyroid carcinoma cell line. *J Biol Chem* 1986; 261: 14386-14391
65. Goltzman D, Tischler AS. Characterization of the immunochemical forms of calcitonin released by a medullary thyroid carcinoma in tissue culture. *J Clin Invest* 1978; 61: 449-458
66. Goris RJ, Boekhorst T, Nuytinck J, Gimbrère J. Multiple-organ failure. Generalized autodestructive inflammation? *Arch Surg* 1985; 120: 1109-1115
67. Gramm H-J, Asmus A, Zimmermann J, Qedra N, Wegscheider K. Procalcitonin (ProCT) plasma kinetics in severe sepsis are closely correlated to the activity and prognosis of the inflammatory response. *Clin Intens Care* 1997; 8: 23 [Abstrakt]
68. Gramm H-J, Dollinger P, Beier W. Procalcitonin - ein neuer Marker der inflammatorischen Wirtsantwort. Longitudinaluntersuchungen bei Patienten mit Sepsis und Peritonitis. *Chir Gastroenterol* 1995; 1 (Suppl 2): 51-54
69. Gramm H-J, Hannemann L, Reinhart K, Lode H. Sepsis: Wandel des Begriffs. Möglichkeiten und Grenzen der Diagnose anhand klinischer Kriterien. *Dtsch Med Wochenschr* 1995; 120: 498-502
70. Guenther HL, Fleisch H. The procalcitonin amino-terminal cleavage peptide (N-proCT) lacks biological activity on normal clonal rat osteoblastic and proosteoblastic cells in vitro. *Calcif Tissue Int* 1991; 49: 138-140

71. Hammer S, Meisner F, Hammer C, Seidel D. Use of procalcitonin as indicator of nonviral infections in transplantation and related immunological disease. *Transplant Rev* 2000; 14: 1-12
72. Han S-P, Naes L, Westfall TC. Inhibition of periarterial nerve stimulation-induced vasodilation of the mesenteric arterial bed by CGRP (8-37) and CGRP receptor desensitization. *Biochem Biophys Res Comm* 1990; 168: 786-791
- 72a. Hanley JA, McNeil BJ. A method of comparing the areas under receiver operating characteristic curves derived from the same cases. *Radiology* 1983; 148: 839-843
73. Hassager C, Bonde SK, Anderson MA, Rink H, Spelsberg TC, Riggs BL. Procalcitonin NH₂-terminal cleavage peptide has no mitogenic effect on human osteoblast-like cells. *J Bone Miner Res* 1991; 6: 489-493
74. Hatherill M, Jones G, Lim E, Tibby SM, Murdoch IA. Procalcitonin aids diagnosis of adrenocortical failure. *Lancet* 1997; 350: 1749-1750
75. Hatherill M, Sykes K, McIntyre AG, Murdoch IA. Procalcitonin may help differentiate disseminated herpes simplex viral infection from bacterial sepsis in neonates. *Eur J Pediatr* 2000; 159: 168-169
76. Hatherill M, Tibby SM, Sykes T, Turner C, Murdoch IA. Diagnostic markers of infection: comparison of procalcitonin with C-reactive protein and leukocyte count. *Arch Dis Child* 1999; 81: 417-421
77. Hatherill M, Tibby SM, Turner C, Ratnavel N, Murdoch IA. Procalcitonin and cytokine levels: Relationship to organ failure and mortality in pediatric septic shock. *Crit Care Med* 2000; 28: 2591-2594
78. Hedlund J, Hansson L-O. Procalcitonin and C-reactive protein levels in community-acquired pneumonia: Correlation with etiology and prognosis. *Infection* 2000; 28: 68-73.
79. Heimbürger DC. Hyperthyrocalcitoninemia in toxic shock syndrome. *South Med J* 1981; 74: 1265-1266
80. Hensel M, Volk T, Döcke WD, Kern F, Tschirna D, Egerer K, Konertz W, Kox WJ. Hyperprocalcitonemia in patients with noninfectious SIRS and pulmonary dysfunction associated with cardiopulmonary bypass. *Anesthesiology* 1998; 89: 93-104
81. Herrmann W, Ecker D, Quast S, Klieben M, Rose S, Marzi I. Comparison of procalcitonin, sCD14 and interleukin-6 values in septic patients. *Clin Chem Lab Med* 2000; 38: 41-46
- 81a. Hoffmann G, Trotzke G, Seibel M, Smolny M, Wiedermann FJ, Schobersberger W. In vitro modulation of inducible nitric oxide synthase gene expression and nitric oxide synthesis by procalcitonin. *Crit Care Med* 2001; 29: 112-116
82. Huber W, Schweigart U, Bottermann P. Failure of PCT to indicate severe fungal infection in two immunodeficient patients. *Infection* 1997; 25: 377-378
83. International Federation of Clinical Chemistry. Committee on Standards. Approved Recommendation (1978) on quality control in clinical chemistry. Part 2. Assessment of analytical methods for routine use. *J Clin Chem Clin Biochem* 1980; 18: 78-88

84. Jacobs JW, Lund PK, Potts JT, Bell NH, Habener JF. Procalcitonin is a glycoprotein. *J Biol Chem* 1981; 256: 2803-2807
85. Joyce CD, Fiscus RR, Wang X, Dries DJ, Morris RC, Prinz RA. Calcitonin gene-related peptide levels are elevated in patients with sepsis. *Surgery* 1990; 108: 1097-1101
86. Kallio R, Surcel H-M, Bloigu A, Syrjälä H. C-reactive protein and interleukin-8 in the primary diagnosis of infections in cancer patients. *Eur J Cancer* 2000; 36: 889-894
87. Kelley MJ, Snider RH, Becker KL, Johnson BE. Small cell lung carcinoma cell line express mRNA for calcitonin and alpha- and beta-calcitonin gene related peptide. *Cancer Lett* 1994; 81: 533-536
88. Kettelhack C, Hohenberger P, Schulz G, Kilpert B, Schlag PM. Induction of systemic serum procalcitonin and cardiocirculatory reactions after isolated limb perfusion with recombinant human tumor necrosis factor- α and melphalan. *Crit Care Med* 2000; 28: 1040-1046
89. Kilger E, Pichler B, Goetz AE, Rank N, Welte M, Mörstedt K, Vetter HO, Gödje O, Schmitz C, Lamm P, Engelschalk E, Muehlbeyer D, Frey L. Procalcitonin as a marker of systemic inflammation after conventional or minimally invasive coronary artery bypass grafting. *Thorac Cardiovasc Surg* 1998; 46: 130-133
90. Knaus WA, Wagner DP, Draper EA, Zimmermann JE, Bergner M, Bastos PG, Sirio CA, Murphy DJ, Lotring T, Damiano A, Harrell FE. The APACHE III prognostic system. Risk prediction of hospital mortality for critically ill hospitalized adults. *Chest* 1991; 100: 1619-1636
91. Koch SM, Mehlhorn U, Baggstrom E, Donovan D, Allen SJ. Hypercalcitoninemia and inappropriate calciuria in the acute trauma patient. *J Crit Care* 1996; 11: 117-121
92. Kunz D, Pross M, König W, Lippert H, Manger T. Diagnostic relevance of procalcitonin, IL-6 and cellular immune status in the early phase after liver transplantation. *Transplant Proc* 1998; 30: 2398-2399
93. Kuse E-R, Langefeld I, Jaeger K, Külpmann W-R. Procalcitonin in fever of unknown origin after liver transplantation: A variable to differentiate acute rejection from infection. *Crit Care Med* 2000; 28: 555-559
94. Lafond P, Viallon A, Guyomarch S, Lambert C, Venet C, Tardy B, Zeni F, Bertrand JC. Procalcitonin serum levels and bacteremia during severe sepsis and septic shock. 38th Annual ICAAC, San Diego 1998 [Abstrakt]
95. Lapillonne A, Basson E, Monneret G, Bienvenu J, Salle BL. Lack of specificity of procalcitonin for sepsis diagnosis in premature infants. *Lancet* 1998; 351: 1211-1212
96. Lawn SD, Obeng J, Acheampong JW, Griffin GE. Serum procalcitonin concentrations in patients with pulmonary tuberculosis. *Trans R Soc Trop Med Hyg* 1998; 92: 540-541
97. Le Moullec JM, Jullienne A, Chenais J, Lasmoles F, Guliana JM, Milhaud G, Moukhtar MS. The complete sequence of human preprocalcitonin. *FEBS Lett* 1984; 167: 93-97

98. Lind L, Bucht E, Ljunghall S. Pronounced elevation in circulating calcitonin in critical care patients is related to the severity of illness and survival. *Intensive Care Med* 1995; 21: 63-66
99. Lind L, Carlstedt F, Rastad J, Stiernström H, Stridsberg M, Ljunggren Ö, Wide L, Larsson A, Hellman P, Ljunghall S. Hypocalcemia and parathyroid hormone secretion in critically ill patients. *Crit Care Med* 2000; 28: 93-99.
100. Lovén L, Gidlöf A, Larsson L, Sjöberg H-E, Lennquist S. Changes in serum phosphate and calcitonin concentrations during elective surgery of the knee. *Acta Chir Scand* 1982; 148: 27-31
101. MacIntyre I, Alevizaki M, Bevis PJR, Zaidi M. Calcitonin and the peptides from the calcitonin gene. *Clin Orthop* 1987; 217: 45-55
102. MacIntyre I, Hillyard CJ, Murphy PK, Reynolds JJ, Das REG, Craig RK. A second plasma-lowering peptide from the human calcitonin precursor. *Nature* 1982; 300: 460-462
103. Mallet E, Lanse X, Devaux AM, Ensel P, Basuyau JP, Brunelle P. Hypercalcitoninaemia in fulminant meningococcaemia in children. *Lancet* 1983; 1: 294 [Letter]
- 103a. Marnitz R, Zimmermann J, Gramm H-J. Plasma procalcitonin elevation is a part of the inflammatory response to major surgery. *Shock* 1997; 7 (Suppl 1): 124 [Abstrakt]
104. Maruna P, Gürlich R, Čermák J, Mašek Z. Procalcitonin as a new infection parameter of postoperative sepsis. The comparison with 7 proinflammatory cytokines and their soluble receptors. *Clin Intens Care* 1997; 8: 12 [Abstrakt]
105. Meisner M, Schmidt J, Hüttner H, Tschaikowsky K. The natural elimination rate of procalcitonin in patients with normal and impaired renal function. *Intensive Care Med* 2000; 26: 212-216
106. Meisner M, Tschaikowsky K, Hutzler A, Schick C, Schüttler J. Postoperative plasma concentrations of procalcitonin after different types of surgery. *Intensive Care Med* 1998; 24: 680-684
107. Meisner M, Tschaikowsky K, Schnabel S, Schmidt J, Katalinic A, Schüttler J. Procalcitonin - influence of temperature, storage, anticoagulation and arterial or venous asservation of blood samples on procalcitonin concentrations. *Eur J Clin Chem Clin Biochem* 1997; 35: 597-601
108. Members of the American College of Chest Physicians/Society of Critical Care Medicine Consensus Conference Committee. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Crit Care Med* 1992; 20: 864-874
109. Milhaud G, Tubiana M, Parmentier C, Coutris G. Epithélioma de la thyroïde sécrétant de la thyrocalcitonine. *C R Acad Sci Hebd Seances Acad Sci D* 1968; 266: 608-610
110. Mimoz O, Benoist JF, Edouard AR, Assicot M, Bohuon C, Samii K. Procalcitonin and C-reactive protein during the early posttraumatic systemic inflammatory response syndrome. *Intensive Care Med* 1998; 24: 185-188

111. Molnár Z, Szakmány T. Microalbuminuria and serum procalcitonin levels following oesophagectomy. *Eur J Anaest* 2000; 17: 464-465 [Letter]
112. Monneret G, Doche C, Durand DV, Lepape A, Bienvenu J. Procalcitonin as a specific marker of bacterial infection in adults. *Clin Chem Lab Med* 1998; 36: 67-68 [Letter]
113. Monneret G, Labaune JM, Isaac C, Bienvenu F, Putet G, Bienvenu J. Procalcitonin and C-reactive protein levels in neonatal infections. *Acta Paediatr* 1997; 86: 209-212
- 113a. Monneret G, Labaune JM, Isaac C, Bienvenu F, Putet G, Bienvenu J. Increased serum procalcitonin levels are not specific to sepsis in neonates. *CID* 1998; 27: 1559
114. Monneret G, Laroche B, Bienvenu J. Procalcitonin is not produced by circulating blood cells. *Infection* 1999; 27: 34-35
115. Moosig F, Reinhold-Keller E, Csernok E, Gross WL. Limitations on the usefulness of procalcitonin as a marker of infection in patients with systemic autoimmune disease: comment on the article by Eberhard et al. *Arthritis Rheum* 1998; 41: 566-567 [Letter]
116. Motté P, Vauzelle P, Alberici G, Ait-Abdellah M, Bohuon C, Bellet D. Utilization of peptides for the study of calcitonin and biosynthetic precursors for calcitonin. *Nucl Med Biol* 1987; 14: 289-294
117. Moya F, Nieto A, R-Candela JL. Calcitonin biosynthesis: Evidence for a precursor. *Eur J Biochem* 1975; 55: 407-413
118. Müller B, Becker KL, Schachinger H, Rickenbacher PR, Huber PR, Zimmerli W, Ritz R. Calcitonin precursors are reliable markers of sepsis in a medical intensive care unit. *Crit Care Med* 2000; 28: 977-983
- 118a. Müller B, White JC, Nylén ES, Snider RH, Becker KL, Habener JF. Ubiquitous expression of the Calcitonin-I gene in multiple tissues in response to sepsis. *J Clin Endocrinol Metab* 2001; 86: 396-404
119. Müller CA, Uhl W, Printzen G, Gloor B, Bischofberger H, Tscholakov O, Büchler MW. Role of procalcitonin and granulocyte colony stimulating factor in the early prediction of infected necrosis in severe acute pancreatitis. *Gut* 2000; 46: 233-238
120. Mulderry PK, Ghatei MA, Rodrigo J, Allen JM, Rosenfeld MG, Polak JM, Bloom SR. Calcitonin gene-related peptide in cardiovascular tissues of the rat. *Neuroscience* 1985; 14: 947-954
121. Nakae H, Inaba H, Endo S. Usefulness of procalcitonin in *Pseudomonas* burn wound sepsis model. *Tohoku J Exp Med* 1999; 188, 271-273
122. Nijsten MWN, Olinga P, The TH, de Vries EGE, Koops HS, Groothuis GMM, Limburg PC, ten Duis HJ, Moshage H, Hoekstra HL, Bijzet J, Zwaveling JH. Procalcitonin behaves as a fast responding acute phase protein in vivo and in vitro. *Crit Care Med* 2000; 28: 458-461
123. Nishikura T. The clearance of procalcitonin (PCT) during continuous venovenous hemodiafiltration (CVVHD). *Intensive Care Med* 1999; 25: 1198-1201 [Letter]

124. Nishikura T. Procalcitonin (PCT) production in a thyroidectomized patient. *Intensive Care Med* 1999; 25: 1031 [Letter]
125. Nylén ES, Al Arifi A, Becker KL, Snider RH Jr, Alzeer A. Effect of classic heatstroke on serum procalcitonin. *Crit Care Med* 1997; 25: 1362-1365
126. Nylén ES, Jeng J, Jordan MH, Snider RH, Thompson KA, Lewis MS, O'Neill WJ, Becker KL. Late pulmonary sequela following burns: persistence of hyperprocalcitonemia using a 1-57 amino acid N-terminal flanking peptide assay. *Respir Med* 1995; 89: 41-46
127. Nylén ES, O'Neill W, Jordan MH, Snider RH, Moore CF, Lewis M, Silva OL, Becker KL. Serum procalcitonin as an index of inhalation injury in burns. *Horm Metab Res* 1992; 24: 439-442
128. Nylén ES, Sinder RH, Thompson KA, Rohatgi P, Becker KL. Pneumonitis-associated hyperprocalcitoninemia. *Am J Med Sci* 1996; 312: 12-18
129. Nylén ES, Whang KT, Snider RH, Steinwald PM, White JC, Becker KL. Mortality is increased by procalcitonin and decreased by an antiserum reactive to procalcitonin in experimental sepsis. *Crit Care Med* 1998; 26: 1001-1006
130. Oberhoffer M, Karzei W, Meier-Hellmann A, Bögel D, Faßbinder J, Reinhart K. Sensitivity and specificity of various markers of inflammation for the prediction of tumor necrosis factor- α and interleukin-6 in patients with sepsis. *Crit Care Med* 1999; 27: 1814-1818
131. Oberhoffer M, Stonans I, Russwurm S, Stonane E, Vogelsang H, Junker U, Jäger L, Reinhart K. Procalcitonin expression in human peripheral blood mononuclear cells and its modulation by lipopolysaccharides and sepsis-related cytokines in vitro. *J Lab Clin Med* 1999; 134: 49-55
132. Oberhoffer M, Vogelsang H, Jager L, Reinhart K. Katalcalcin and calcitonin immunoreactivity in different types of leukocytes indicate intracellular procalcitonin content. *J Crit Care* 1999; 14: 29-33
133. O'Neill WJ, Jordan MH, Lewis MS, Snider RH, Moore ChF, Becker KL. Serum calcitonin may be a marker for inhalation injury in burns. *J Burn Care Rehabil* 1992; 13: 605-616
134. Petitjean S, Mackensen A, Engelhardt R, Bohuon C, Assicot M. Induction de la procalcitonine circulante après administration intraveineuse d'endotoxine chez l'homme. *Act Pharm Biol Clin* 1994; 1: 265-268
135. Pezzilli R, Melzi D'Eril GV, Morselli-Labate AM, Merlini G, Barakat B, Bosoni T. Serum amyloid A, procalcitonin, and C-reactive protein in early assessment of severity of acute pancreatitis. *Dig Dis Sci* 2000; 45: 1072-1078
136. Pugin J, Froidevaux C, Holeckova K, Grau GE, Pittet D, Ricou B, Vadas L, and the Geneva Sepsis Network. Diagnostic and prognostic value of clinical variables and plasma procalcitonin (PCT) levels in human sepsis. 38th Annual ICAAC, San Diego 1998 [Abstrakt]

- 136a. Qedra N, Wagner F, Terzi E, Loebe M, Hetzer R. Procalcitonin in the postoperative monitoring of sepsis/severe sepsis following transplantation of thoracic organs. *Transplantation* 2000; 69: 237
137. Rau B, Steinbach G, Gansauge F, Mayer JM, Grünert A, Beger HG. The role of procalcitonin and interleukin 8 in the predication of infected necrosis in acute pancreatitis. *Gut* 1997; 41: 832-840
138. Raue F, Boden M, Girgis S, Rix E, Ziegler R. Katalcalcin – Ein neuer Tumormarker beim C-Zell-Karzinom der Schilddrüse. *Klin Wschr* 1987; 65: 82-86
139. Rehli M, Luger K, Beier W, Falk W. Molecular cloning and expression of mouse procalcitonin. *Biochem Biophys Res Commun* 1996; 226: 420-425
140. Reith HB, Lehmkühl P, Beier W, Högy B und die Studiengruppe Peritonitis. Procalcitonin - ein prognostischer Infektionsparameter bei der Peritonitis. *Chir Gastroenterol* 1995; 11 (Suppl 2): 47-50
141. Reith HB, Mittelkötter U, Debus ES, Küssner C, Thiede A. Procalcitonin in early detection of postoperative complications. *Dig Surg* 1998; 15: 260-265
142. Richard-Lenoble D, Duong TH, Ferrer A, Lacombe C, Assicot M, Gendrel D, Bohuon C, Kombila M. Changes in procalcitonin and interleukin 6 levels among treated African patients with different clinical forms of malaria. *Trans R Soc Trop Med Hyg* 1997; 91: 305-306
143. Rosenfeld MG, Mermod J-J, Amara SG, Swanson LW, Sawchenko PE, Rivier J, Vale WW, Evans RM. Production of a novel neuropeptide encoded by the calcitonin gene via tissue-specific RNA processing. *Nature* 1983; 304: 129-135
144. Ruokonen E, Nousiainen T, Pulkki K, Takala J. Procalcitonin concentrations in patients with neutropenic fever. *Eur J Clin Microbiol Infect Dis* 1999; 18: 283-285
145. Sachse C, Machens HG, Felmerer G, Berger A, Henkel E. Procalcitonin as a marker for the early diagnosis of severe infection after thermal injury. *J Burn Care Rehabil* 1999; 20: 354-360
146. Sachse C, Dressler F, Henkel E. Increased serum procalcitonin in newborn infants without infection. *Clin Chem* 1998; 44: 1343-1344
147. Schlumberger M, Gicquel C, Lumbroso J, Tenenbaum F, Comoy E, Bosq J, Fonseca E, Ghillani PP, Aubert B, Travagli JP, Gardet P, Parmentier C. Malignant pheochromocytoma: Clinical, biological, histologic and therapeutic data in a series of 20 patients with distant metastases. *J Endocrinol Invest* 1992; 15: 631-642
148. Schmidt M, Buchardi C, Sitter T, Held E, Schiffl H. Procalcitonin in patients undergoing chronic hemodialysis. *Nephron* 2000; 84: 187-188
149. Schmidt J, Meisner M, Tschaikowsky K, Schüttler J. Procalcitonin moduliert die proinflammatorische Zytokin-Freisetzung in vitro. *Anaesthesiol Intensivmed Notfallmed Schmerzther* 1997; 32 (Suppl): 171. [Abstrakt]
150. Schröder J, Staubach K-H, Zabel P, Stüber F, Kremer B. Procalcitonin as a marker of severity in septic shock. *Langenbeck's Arch Surg* 1999; 384: 33-38

151. Schwarz S, Bertram M, Schwab S, Andrassy K, Hacke W. Serum procalcitonin levels in bacterial and abacterial meningitis. *Crit Care Med* 2000; 28: 1828-1832
152. Schwenger V, Sis J, Breitbart A, Andrassy K. CRP levels in autoimmune disease can be specified by measurement of procalcitonin. *Infection* 1998; 26: 274-276
153. Seifarth F, Janusek M, Nadal D, Fanconi S, Fischer J. Early markers of sepsis in critically ill children: comparison of granulocyte-colony stimulating factor, interleukin-6 and procalcitonin. *Clin Intens Care* 1997; 8 (Suppl): 19 [Abstrakt]
154. Selberg O, Hecker H, Martin M, Klos A, Bautsch W, Köhl J. Discrimination of sepsis and systemic inflammatory response syndrome by determination of circulating plasma concentrations of procalcitonin, protein complement 3a, and interleukin-6. *Crit Care Med* 2000; 28: 2793-2798
155. Smith MD, Suputtamongkol Y, Chaowagul W, Assicot M, Bohuon C, Petitjean S, White NJ. Elevated serum procalcitonin levels in patients with melioidosis. *Clin Infect Dis* 1995; 20: 641-645
156. Snider RH, Nylén ES, Becker KL. Procalcitonin and its component peptides in systemic inflammation: immunochemical characterization. *J Investig Med* 1997; 45: 552-560
157. Snider RH, Silva OL, Moore CF, Becker KL. Immunochemical heterogeneity of calcitonin in man: Effect on radioimmunoassay. *Clin Chim Acta* 1977; 76: 1-14
158. Söderquist B, Jones I, Fredlund H, Vikerfors T. Bacterial or crystal-associated arthritis? Discriminating ability of serum inflammatory markers. *Scand J Infect Dis* 1998; 30: 591-596
159. Sperber SJ, Blevins DD, Francis JB. Hypercalcitoninemia, hypocalcemia, and toxic shock syndrome. *Rev Infect Dis* 1990; 12 : 736-739
160. Staehler M, Hammer C, Meiser B, Reichart B. Procalcitonin: A new marker for differential diagnosis of acute rejection and bacterial infection in heart transplantation. *Transplant Proc* 1997; 29: 584-585
161. Steinwald PM, Becker KL, Nylén ES, Snider RH, White JC. Hyperprocalcitonemia of *E. coli* sepsis in a hamster model: Association with hypocalcemia and hyperphosphatemia. 10th International Congress on Endocrinology, San Francisco, June 1996 [Abstrakt]
162. Südhoff T, Giagounidis A, Karthaus M. Serum and plasma parameters in clinical evaluation of neutropenic fever. In: Karthaus M, Ganser A, eds. *Supportive care in cancer patients. Recent developments*. Basel: Karger, 2000: 10-19
163. Tang Y, Han C, Fiscus RR, Wang X. Increase of calcitonin gene-related peptide (CGRP) release and mRNA levels in endotoxic rats. *Shock* 1997; 7: 225-229
164. Tashjian AH, Howland BG, Melvin KEW, Hill CS. Immunoassay of human calcitonin. Clinical measurement, relation to serum calcium and studies in patients with medullary carcinoma. *N Engl J Med* 1970; 283: 890-895
165. Toikka P, Irjala K, Juvén T, Virkki R, Mertsola J, Leinonen M, Ruuskanen O. Serum procalcitonin, C-reactive protein and interleukin-6 for distinguishing bacterial and viral pneumonia in children. *Pediatr Infect Dis J* 2000; 19: 598-602

166. Uddman R, Edvinsson L, Ekblad E, Håkanson R, Sundler F. Calcitonin gene-related peptide (CGRP): perivascular distribution and vasodilatory effects. *Regul Pep* 1986; 15: 1-23
167. Ugarte H, Silva E, Mercan D, De Mendonca A, Vincent JL. Procalcitonin used as a marker of infection in the intensive care unit. *Crit Care Med* 1999; 27: 498-504
168. Viallon A, Zeni F, Lambert C, Lafond P, Tardy B, Guyomarch S, Bertrand JC. Serum and ascitic fluid levels of procalcitonin and cytokines (TNF, IL-6) in cirrhotic patients with spontaneous bacterial peritonitis. 38th Annual ICAAC, San Diego 1998 [Abstrakt]
169. Viallon A, Zeni F, Lambert C, Pozzeto B, Tardy B, Venet C, Bertrand J-C. High sensitivity and specificity of serum procalcitonin levels in adults with bacterial meningitis. *Clin Infect Dis* 1999; 28: 1313-1316
170. Vincent J-L, De Mendonca A, Cantraine F, Moreno R, Takala J, Suter PM, Sprung CL, Colardyn F, Blecher S on behalf of the working group on "sepsis-related problems" of the European Society of Intensive Care Medicine. Use of the SOFA score to assess the incidence of organ dysfunction/failure in intensive care units: Results of a multicenter, prospective study . *Crit Care Med* 1998; 26: 1793-1800
171. von Heimburg D, Stieghorst W, Khorram-Sefat R, Pallua N. Procalcitonin – a sepsis parameter in severe burn injuries. *Burns* 1998; 24: 745-750
172. Wagner MA, Batts DH, Colville JM, Lauter CB. Hypocalcaemia and toxic shock syndrome. *Lancet* 1981; 1: 1208 [Letter]
173. Wang X, Jones SB, Zhou Z, Han C, Fiscus RR. Calcitonin gene-related peptide (CGRP) and neuropeptide Y (NPY) levels are elevated in plasma and decreased in vena cava during endotoxin shock in the rat. *Circ Shock* 1992; 36: 21-30
174. Wanner GA, Keel M, Steckholzer U, Beier W, Stocker R, Ertel W. Relationship between procalcitonin plasma levels and severity of injury, sepsis, organ failure, and mortality in injured patients. *Crit Care Med* 2000; 28: 950-957
175. Weeks I, Sturgess ML, Woodhead JS. Chemiluminescence immunoassay: an overview. *Clin Sci* 1986; 70: 403-408
176. Weltärztebund. Deklaration von Helsinki 1964. *Pharm Ind* 1990; 12
177. Whang K, Steinwald P, Snider R, Nylén E, Becker K, Muller B. Elevated tissue levels of precalcitonin peptides in sepsis. 38th Annual ICAAC, San Diego 1998 [Abstrakt]
178. Whang KT, Steinwald PM, White JC, Nylén ES, Snider RH, Simon GL, Goldberg RL, Becker KL. Serum calcitonin precursors in sepsis and systemic inflammation. *J Clin Endocrinol Metab* 1998; 83: 3296-3301
179. Whang KT, Vath SD, Nylén ES, Muller B, Li Q, Tamarkin L, White JC. Procalcitonin and proinflammatory cytokine interactions in sepsis. *Shock* 1999; 12: 268-273