

Table S1 Distribution, clinical symptoms and ages features of Zinner syndrome (ZS) from 160 case report/case series

No.	Author	Number & distribution (R = right, L= left)	Age (y = year, m = month)	Symptoms and complains
1	Landry JL (61)	1R	24 y	Perineal pain
2	Steffens J (62)	1R	10 m	Asymptom
3	Livingston L (63)	3L & 2R	17–60 y	Dysuresia [4], perineal pain, urgent, frequency [2], infertility [2], nocturia, hematuria, hematospermia, abdomen pain & ejaculation pain
4	Gorrea M (64)	1R	37 y	Hematuria
5	Eberli D (65)	1R	9 y	Swelling of Testicles
6	Burns JA (8)	1R	12 y	Swelling of Testicles
7	Buogo G (58)	1L	23 y	Inguinodynia & sexual discomfort
8	Manousakas T (66)	1L	30 y	Hematuria, frequency & urgent
9	Radhia S (67)	1R	34 y	Dysuresia, frequency, urgent & pelvic pain
10	Takada S (68)	1L	39 y	Asymptom
11	Calahorra Fernández FJ (26)	1R	41 y	Hematospermia & infertility
12	Giglio M (33)	1L	45 y	Epididymitis
13	Roberts SG (69)	1R	49 y	Asymptom
14	Kluckert JT (40)	1L	67 y	Dysuresia
15	Hoschke B (70)	1L	14 y	Asymptom
16	Protogerou V (71)	1L	24 y	Frequency, urgent, backache, inguinodynia
17	Segawa N (72)	1R	29 y	Uroschesis & perineal pain
18	Akao J (73)	1R	29 y	Dysuresia
19	Narlawar RS (74)	1R	30 y	Dysuresia, frequency & ejaculation pain
20	Murphy JO (75)	1L & 1R	15y & 22y	Dysuresia [2] & suprapubic pain [1]
21	Basilote JB (76)	1R	7y	Dysuresia & suprapubic pain
22	Kilinç F (77)	1L	17 y	Dysuresia & perineal pain
23	Liatsikos EN (34)	1L	26 y	Dysuresia, frequency & urgent
24	Kawahara T (24)	1R	30 y	Infertility
25	Pascual Samaniego M (78)	1R	34 y	Inguinodynia
26	Madrid García FJ (79)	1L	42 y	Dysuresia & frequency
27	Berg F (35)	1R	38 y	Perineal pain & ejaculation pain
28	Chuang KL (15)	1R	53 y	Abdominal pain
29	Kosan M (80)	1L	20 y	Hematuria
30	Gözen AS (81)	1R	22 y	Dysuresia, frequency & uracratia
31	Romero Selas E (82)	1R	26 y	Asymptom
32	Andrade-Rocha FT (25)	1R	39 y	Infertility
33	Pal D (83)	1L	51 y	Dysuresia
34	Cihan A (84)	1L	61 y	Asymptom
35	Chen HW (85)	4L & 2R	10–15 y	Asymptom [4], dysuresia, frequency & urgent [1]
36	Savica V (21)	1R	13 y	Coxalgia
37	Moore CD (59)	1R	16 y	Nausea, vomiting, abdominal pain & swelling of testicles
38	Kondo N (41)	1R	30 y	Hematospermia, perineal pain, micturition pain
39	Suárez Aliago B (86)	1L	33 y	Abdominal pain & fever
40	Lee BH (42)	1L	41 y	Hematuria
41	Han P (87)	1L	41 y	Perineal pain & hematospermia
42	Carbone A (88)	1 & 1R	24 y & 43 y	Abdominal pain & infertility [1], no semen [1]
43	Pace G (4)	7R	32 y (mean)	Infertility [7], ejaculation weakness [5], dysuresia [4], ejaculation pain [4] & perineal pain [4]
44	Lilje C (53)	1R	5 m	Multiple developmental malformation
45	Labanaris AP (89)	1R	27 y	Sexual discomfort, frequency & urgent
46	Casey RG (90)	1R	32 y	Swelling of testicles & testicular pain
47	Štimac G (91)	1R	36 y	Inguinodynia, frequency & urgent
48	Ohgaki K (92)	1L	38 y	Perineal pain & micturition pain
49	Selli C (93)	1R	39 y	Perineal pain & dysuresia
50	Kowalczyk K (52)	1R	3 y	Swelling of testicles
51	Sotelo R (94)	1R	19 y	Micturition pain, frequency & urgent
52	Pereira BJ (95)	1R	22 y	Dysuresia, perineal pain & ejaculation pain
53	Ulu EMK (16)	1R	25 y	Asymptom
54	Chung SD (30)	1R	56 y	Fever, dysuresia & uroschesis
55	Seo IY (96)	4L	22 y, 26 y, 67 y & 68 y	Perineal pain [2] & hematospermia [2]
56	Schukfeh N (6)	5L & 4R	Newborn to 50 m	Asymptom [8], epididymitis and orchitis [1]
57	Ghonge NP (97)	1R	19 y	Dysuresia, frequency, perineal pain, scrotal pain & ejaculation pain
58	Sukumar S (9)	1R	20 y	Abdominal pain
59	Lim Christopher SH (98)	1R	23 y	Ejaculation pain
60	Viktorsdóttir MB (99)	1R	25 y	Perineal pain
61	Allaparthi S (100)	1R	34 y	No mention
62	Dombóvári P (101)	1L	34 y	Abdominal pain
63	Kao CC (28)	1L	43 y	Perineal pain & infertility
64	Ahallal Y (102)	1L	16 y	Micturition pain, frequency & urgent
65	Hampton LJ (103)	1L	35 y	Micturition pain, less or no semen & epididymitis
66	Kovac JR (104)	1L	36 y	Abdominal pain, astriction, nausea, vomiting & fever
67	Jang KD (105)	1L	49 y	Frequency, nocturia, & dysuresia
68	Kuo J (19)	1L	52 y	Fever, loss of weight & night sweats
69	Kalyanaraman B (106)	1L	20 y	Perineal pain, dysuresia & defecation pain
70	Devaraju S (107)	1R	28 y	Abdominal pain, dysuresia, frequency & suprapubic pain
71	Basal S (108)	1L	28 y	Perineal pain & dysuresia
72	El-Assmy A (109)	1R	34 y	Frequency & nocturia
73	Haghighi R (110)	1L	36 y	Perineal pain & hematospermia
74	Fujita M (7)	1R	76 y	Dysuresia
75	Heller MT (36)	2R	46 y, 27 y	Perineal pain [2]
76	Coşkun B (111)	1L	20 y	Uracratia, pelvic pain, sexual discomfort & hematospermia
77	Kardoust Parizi M (112)	1L	27 y	Hematospermia, ejaculation pain, infertility, micturition pain, frequency & urgent
78	Sridhar AN (54)	1R	36 y	Kallmann syndrome, hematuria & hematospermia
79	Nayak B (10)	1R	44 y	Dysuresia, hematuria & frequency
80	Altobelli E (113)	1L	66 y	Fever & fremitus
81	Silveri M (114)	1L	2 y	Abdominal pain & astriction
82	Batur A (115)	1L	22 y	Pelvic pain & hematospermia
83	Royston E (22)	1L	23 y	Ejaculation pain
84	Palmer WC (116)	1L	26 y	Fever and pelvic pain
85	Satyanarayana R (43)	1R	29 y	No mention
86	Kim YH (48)	1R	29 y	Less or no semen & hematuria
87	Lee KH (117)	1L	46 y	Abdominal pain, hematuria, dysuresia, micturition pain, frequency & urgent
88	Mcadams S (38)	1R	54 y	Dysuresia, frequency & pelvic pain
89	Shepherd G (118)	2L	18 m & 2 y	Asymptom [2]
90	Kanavaki A (119)	1R	4 y	Asymptom
91	Burak Özkan M (120)	1L	15 y	Pelvic pain
92	Haddock P (11)	1R	18 y	Ejaculation pain
93	Valsangkar RS (46)	1R	21 y	Hematuria
94	Donato P (121)	1L	22 y	Abdominal pain & diarrhea
95	Sundar R (12)	1L	25 y	Frequency, pelvic pain & ejaculation pain
96	Alp B (122)	1L	28 y	Frequency & pelvic pain
97	Harbo FS (20)	1L	41 y	Swelling of testicles
98	Kim Y (123)	1R	41 y	Hematuria
99	Pavan N (124)	1R	42 y	Asymptom
100	Juho YC (125)	1R	43 y	Gastrointestinal uncomfortable, less or no semen & frequency
101	García Asensio D (126)	1L	10 m	Asymptom
102	Domínguez A (55)	1R	20 y	Kallmann syndrome, testicular pain & erectile dysfunction
103	Leen A (56)	1L	22 y	Kallmann syndrome & testicular hypoplasia
104	Jaiswal A (17)	1R	25 y	Micturition pain, frequency & urgent
105	Mehra S (27)	1R	25 y	Dysuresia, frequency & infertility
106	Aghaways I (127)	1L	28 y	Abdominal pain
107	Hajji F (128)	1L	29 y	Dysuresia, urgent, abdominal pain, sexual discomfort & hematospermia
108	Dogan F (129)	1R	38 y	Hematospermia, dysuresia, astriction & pelvic pain
109	Shah S (130)	1R	39 y	Uroschesis & suprapubic pain
110	Bakloul F (131)	1R	43 y	Infertility
111	Gutierrez García MA (132)	1L	46 y	Pelvic pain & ejaculation pain
112	Deptala A (44)	1L	58 y	Frequency, backache, loss of weight & astriction
113	Maré A (133)	1R	62 y	No mention
114	Sato Y (29)	1L	64 y	Hematuria
115	Yu YD (49)	1R	10 m	Asymptom & undescended testis
116	Slaoui A (134)	1L & 1R	35 y & 39 y	Hematuria [1], backache [1] & no mention [1]
117	Canales-Casco N (135)	1L	17 y	Hematospermia
118	Prem G (136)	1L	19 y	Dysuresia, frequency, urgent & ejaculation pain
119	Chiapparrone G (137)	1L	20 y	Perineal pain & infertility
120	Cao JD (138)	1L	23 y	Perineal pain
121	Ahmed A (139)	1L	30 y	Backache & abdominal pain
122	Campora M (140)	1R	37 y	Asymptom
123	Khanduri S (141)	1R	40 y	Abdominal pain, perineal pain, ejaculation pain & infertility
124	Fiaschetti V (51)	1L	56 y	Perineal pain, dysuresia, frequency & less or no semen
125	Naval-Baudin P (50)	1L & 1R	26 y & 29 y	Testicular pain [1] & infertility [1]
126	Roth C (142)	1L	15 y	Perineal pain & frequency
127	Millman AL (143)	1R	21 y	Frequency, urgent & perineal pain
128	Maehana T (18)	1R	21 y	Dysuresia
129	Razdan S (144)	1L	21 y	Abdominal pain, pelvic pain & astriction
130	Florim S (145)	1R	21 y	Scrotal pain
131	Kord E (146)	1L	23 y	Micturition pain, frequency, urgent & perineal pain
132	Kiremit MC (23)	1L	23 y	Micturition pain, frequency, urgent & perineal pain
133	Siguena Gonzalez R (39)	1R	23 y	No mention
134	Farooqui A (147)	1R	28 y	Malaise, fatigue, & myalgia
135	Brown M (148)	1L	31 y	Micturition pain, frequency & urgent
136	El Mortaji H (149)	1R	45 y	Backache
137	Ali MS (47)	1L	67 y	Micturition pain, frequency, urgent & ejaculation pain
138	Guan J (5)	6L & 8R	14–43 y	Hematospermia [1], infertility [2], abdominal pain [3], ventosity [1], frequency & dysuresia [7]
139	Briosa F (150)	1R	14 y	Asymptom
140	Sousa Célia (57)	1R	17 y	No mention
141	Symeonidis EN (151)	1L	19 y	Asymptom
142	Kori R (152)	1R	19 y	Dysuresia
143	AlArifi M (153)	1L	20 y	Inguinodynia, testicular pain & ejaculation pain
144	Aslan Serdar (154)	1L	27 y	Pelvic pain
145	Cito G (155)	1L	27 y	Perineal pain & dysuresia
146	Bhat A (45)	1R	28 y	Perineal pain & abdominal pain
147	Bhukte S (156)	1R	28 y	Abdominal pain
148	Patil M (157)	1L	32 y	Infertility
149	Sahare P (158)	1R	45 y	Micturition pain, frequency, urgent & dysuresia
150	Alhajeri F (159)	1L	46 y	Testicular pain, suprapubic pain & uroschesis
151	Corongiu E (160)	1L	51 y	Perineal pain, astriction, infertility
152	Chibeleian BC (161)	1L	61 y	Abdominal pain & astriction
153	Cascini V (13)	1L & 1R	1 m & 1 m	Asymptom
154	Herrero Blanco E (37)	1L & 1R	22 y, 29 y	Asymptom [2]
155	Bryson CF (162)	1R	24 y	Abdominal pain, suprapubic pain, testicular pain and frequency
156	Hergan B (163)	1L	22 y	Asymptom
157	Yadav SP (164)	1L	29 y	Suprapubic pain, uroschesis,
158	Tan Z (165)	2L & 4R	15–64 y	Micturition pain [1], Frequency [2], Urgent [2] Backache [1], Asymptom [2], hematochezia [1]
159	te Dorsthorst MJ (31)	2L & 1R	56 y, 61 y, 67 y	Asymptom [1], erectile dysfunction [1], abdominal pain [1], uroschesis [1]
160	Jatal S (166)	1L	28 y	Frequency, urgent & defecation pain

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