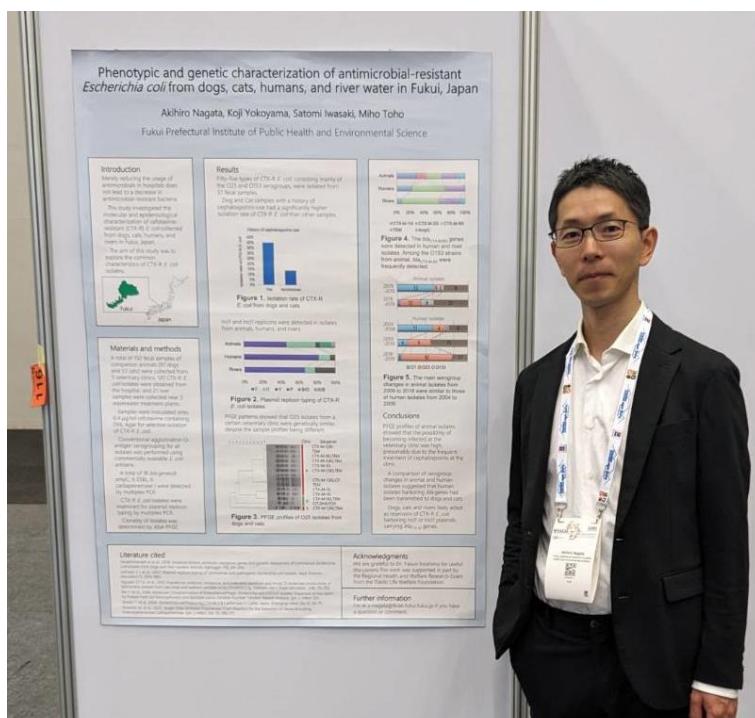


福井県衛生環境研究センター活動報告 概要

発表演題名	Phenotypic and genetic characterization of antimicrobial-resistant <i>Escherichia coli</i> from dogs, cats, humans, and river water in Fukui, Japan
発表学会名	39 th World Veterinary Association Congress
発表者名	永田 晓洋（保健衛生部）
開催場所	ケープタウン国際コンベンションセンター (南アフリカ共和国、ケープタウン)
発表日時	令和6年4月16日（火） 13:10 ~ 13:30
発表内容	<ul style="list-style-type: none"> 福井県内のヒト、犬猫、河川水から薬剤耐性（薬が効きにくい）大腸菌を検出した。 ヒトと犬猫から検出した大腸菌の血清型（菌の型別）について、過去10年の経年変化を見たところ、薬剤耐性大腸菌はヒトから犬猫に拡散している可能性があった。また、動物病院内で薬剤耐性菌が拡散している可能性があった。 河川水から検出した大腸菌が持つ薬剤耐性遺伝子のタイプ別割合は、ヒトのタイプ別割合と似ていたことから、ヒト（下水）から環境中に薬剤耐性遺伝子が拡散している可能性がある。



The poster displays the following information:

Introduction: This study investigated the usage of antimicrobials in humans, dogs, and cats, and characterized antimicrobial-resistant *E. coli* isolated from humans, dogs, and cats in Fukui, Japan. The study also examined the phenotypic and epidemiological characteristics of antimicrobial-resistant *E. coli* isolated from humans, dogs, and cats in Fukui, Japan.

Materials and methods: A total of 103 fecal samples of humans, dogs, and cats were collected from Fukui, Japan. Isolates were obtained from humans, dogs, and cats. Isolates were cultured on Mueller-Hinton agar and identified using the Vitek 2 system. Isolates were inoculated onto E. coli CFT80 and CFT82 agar for antimicrobial susceptibility testing.

Experimental application: OXA-154 and OXA-157 were detected by PCR. OXA-154 and OXA-157 were detected by PCR.

Statistical analysis: Chi-square test was performed using SPSS 19.0 (IBM, Armonk, NY, USA). $P < 0.05$ was considered statistically significant.

Figure 1: Isolation rate of CTX-M.

Category	Isolation rate (%)
Human	35.1
Dog	1.0
Cat	0.0

Figure 2: Phage-lysotype typing of CTX-M.

Category	Isolation rate (%)
Human	100.0
Dog	0.0
Cat	0.0

Figure 3: IM-DE profiles of OXA isolates from dogs and cats.

Figure 4: The rate of bla_{TEM} genes in the OXA isolates from humans, dogs, and cats.

Figure 5: OXA isolates from humans, dogs, and cats from 2004 to 2010.

Conclusions: The study found that the resistance rates of OXA isolates from humans, dogs, and cats were significantly different. A comparison of serogroup changes in animal isolates from 2004 to 2010 showed that the resistance rates of OXA isolates from humans, dogs, and cats were significantly different. The resistance rates of OXA isolates from humans, dogs, and cats were significantly different.

Acknowledgments: This study was supported by grants-in-aid for scientific research from the Ministry of Education, Culture, Sports, Science and Technology of Japan (15500211, 16500211, 17500211, 18500211, 19500211, 20500211, 21500211, 22500211, 23500211, 24500211, 25500211, 26500211, 27500211, 28500211, 29500211, 30500211, 31500211, 32500211, 33500211, 34500211, 35500211, 36500211, 37500211, 38500211, 39500211, 40500211, 41500211, 42500211, 43500211, 44500211, 45500211, 46500211, 47500211, 48500211, 49500211, 50500211, 51500211, 52500211, 53500211, 54500211, 55500211, 56500211, 57500211, 58500211, 59500211, 60500211, 61500211, 62500211, 63500211, 64500211, 65500211, 66500211, 67500211, 68500211, 69500211, 70500211, 71500211, 72500211, 73500211, 74500211, 75500211, 76500211, 77500211, 78500211, 79500211, 80500211, 81500211, 82500211, 83500211, 84500211, 85500211, 86500211, 87500211, 88500211, 89500211, 90500211, 91500211, 92500211, 93500211, 94500211, 95500211, 96500211, 97500211, 98500211, 99500211, 100500211, 101500211, 102500211, 103500211, 104500211, 105500211, 106500211, 107500211, 108500211, 109500211, 110500211, 111500211, 112500211, 113500211, 114500211, 115500211, 116500211, 117500211, 118500211, 119500211, 120500211, 121500211, 122500211, 123500211, 124500211, 125500211, 126500211, 127500211, 128500211, 129500211, 130500211, 131500211, 132500211, 133500211, 134500211, 135500211, 136500211, 137500211, 138500211, 139500211, 140500211, 141500211, 142500211, 143500211, 144500211, 145500211, 146500211, 147500211, 148500211, 149500211, 150500211, 151500211, 152500211, 153500211, 154500211, 155500211, 156500211, 157500211, 158500211, 159500211, 160500211, 161500211, 162500211, 163500211, 164500211, 165500211, 166500211, 167500211, 168500211, 169500211, 170500211, 171500211, 172500211, 173500211, 174500211, 175500211, 176500211, 177500211, 178500211, 179500211, 180500211, 181500211, 182500211, 183500211, 184500211, 185500211, 186500211, 187500211, 188500211, 189500211, 190500211, 191500211, 192500211, 193500211, 194500211, 195500211, 196500211, 197500211, 198500211, 199500211, 200500211, 201500211, 202500211, 203500211, 204500211, 205500211, 206500211, 207500211, 208500211, 209500211, 210500211, 211500211, 212500211, 213500211, 214500211, 215500211, 216500211, 217500211, 218500211, 219500211, 220500211, 221500211, 222500211, 223500211, 224500211, 225500211, 226500211, 227500211, 228500211, 229500211, 230500211, 231500211, 232500211, 233500211, 234500211, 235500211, 236500211, 237500211, 238500211, 239500211, 240500211, 241500211, 242500211, 243500211, 244500211, 245500211, 246500211, 247500211, 248500211, 249500211, 250500211, 251500211, 252500211, 253500211, 254500211, 255500211, 256500211, 257500211, 258500211, 259500211, 260500211, 261500211, 262500211, 263500211, 264500211, 265500211, 266500211, 267500211, 268500211, 269500211, 270500211, 271500211, 272500211, 273500211, 274500211, 275500211, 276500211, 277500211, 278500211, 279500211, 280500211, 281500211, 282500211, 283500211, 284500211, 285500211, 286500211, 287500211, 288500211, 289500211, 290500211, 291500211, 292500211, 293500211, 294500211, 295500211, 296500211, 297500211, 298500211, 299500211, 300500211, 301500211, 302500211, 303500211, 304500211, 305500211, 306500211, 307500211, 308500211, 309500211, 310500211, 311500211, 312500211, 313500211, 314500211, 315500211, 316500211, 317500211, 318500211, 319500211, 320500211, 321500211, 322500211, 323500211, 324500211, 325500211, 326500211, 327500211, 328500211, 329500211, 330500211, 331500211, 332500211, 333500211, 334500211, 335500211, 336500211, 337500211, 338500211, 339500211, 340500211, 341500211, 342500211, 343500211, 344500211, 345500211, 346500211, 347500211, 348500211, 349500211, 350500211, 351500211, 352500211, 353500211, 354500211, 355500211, 356500211, 357500211, 358500211, 359500211, 360500211, 361500211, 362500211, 363500211, 364500211, 365500211, 366500211, 367500211, 368500211, 369500211, 370500211, 371500211, 372500211, 373500211, 374500211, 375500211, 376500211, 377500211, 378500211, 379500211, 380500211, 381500211, 382500211, 383500211, 384500211, 385500211, 386500211, 387500211, 388500211, 389500211, 390500211, 391500211, 392500211, 393500211, 394500211, 395500211, 396500211, 397500211, 398500211, 399500211, 400500211, 401500211, 402500211, 403500211, 404500211, 405500211, 406500211, 407500211, 408500211, 409500211, 410500211, 411500211, 412500211, 413500211, 414500211, 415500211, 416500211, 417500211, 418500211, 419500211, 420500211, 421500211, 422500211, 423500211, 424500211, 425500211, 426500211, 427500211, 428500211, 429500211, 430500211, 431500211, 432500211, 433500211, 434500211, 435500211, 436500211, 437500211, 438500211, 439500211, 440500211, 441500211, 442500211, 443500211, 444500211, 445500211, 446500211, 447500211, 448500211, 449500211, 450500211, 451500211, 452500211, 453500211, 454500211, 455500211, 456500211, 457500211, 458500211, 459500211, 460500211, 461500211, 462500211, 463500211, 464500211, 465500211, 466500211, 467500211, 468500211, 469500211, 470500211, 471500211, 472500211, 473500211, 474500211, 475500211, 476500211, 477500211, 478500211, 479500211, 480500211, 481500211, 482500211, 483500211, 484500211, 485500211, 486500211, 487500211, 488500211, 489500211, 490500211, 491500211, 492500211, 493500211, 494500211, 495500211, 496500211, 497500211, 498500211, 499500211, 500500211, 501500211, 502500211, 503500211, 504500211, 505500211, 506500211, 507500211, 508500211, 509500211, 510500211, 511500211, 512500211, 513500211, 514500211, 515500211, 516500211, 517500211, 518500211, 519500211, 520500211, 521500211, 522500211, 523500211, 524500211, 525500211, 526500211, 527500211, 528500211, 529500211, 530500211, 531500211, 532500211, 533500211, 534500211, 535500211, 536500211, 537500211, 538500211, 539500211, 540500211, 541500211, 542500211, 543500211, 544500211, 545500211, 546500211, 547500211, 548500211, 549500211, 550500211, 551500211, 552500211, 553500211, 554500211, 555500211, 556500211, 557500211, 558500211, 559500211, 560500211, 561500211, 562500211, 563500211, 564500211, 565500211, 566500211, 567500211, 568500211, 569500211, 570500211, 571500211, 572500211, 573500211, 574500211, 575500211, 576500211, 577500211, 578500211, 579500211, 580500211, 581500211, 582500211, 583500211, 584500211, 585500211, 586500211, 587500211, 588500211, 589500211, 590500211, 591500211, 592500211, 593500211, 594500211, 595500211, 596500211, 597500211, 598500211, 599500211, 600500211, 601500211, 602500211, 603500211, 604500211, 605500211, 606500211, 607500211, 608500211, 609500211, 610500211, 611500211, 612500211, 613500211, 614500211, 615500211, 616500211, 617500211, 618500211, 619500211, 620500211, 621500211, 622500211, 623500211, 624500211, 625500211, 626500211, 627500211, 628500211, 629500211, 630500211, 631500211, 632500211, 633500211, 634500211, 635500211, 636500211, 637500211, 638500211, 639500211, 640500211, 641500211, 642500211, 643500211, 644500211, 645500211, 646500211, 647500211, 648500211, 649500211, 650500211, 651500211, 652500211, 653500211, 654500211, 655500211, 656500211, 657500211, 658500211, 659500211, 660500211, 661500211, 662500211, 663500211, 664500211, 665500211, 666500211, 667500211, 668500211, 669500211, 670500211, 671500211, 672500211, 673500211, 674500211, 675500211, 676500211, 677500211, 678500211, 679500211, 680500211, 681500211, 682500211, 683500211, 684500211, 685500211, 686500211, 687500211, 688500211, 689500211, 690500211, 691500211, 692500211, 693500211, 694500211, 695500211, 696500211, 697500211, 698500211, 699500211, 700500211, 701500211, 702500211, 703500211, 704500211, 705500211, 706500211, 707500211, 708500211, 709500211, 710500211, 711500211, 712500211, 713500211, 714500211, 715500211, 716500211, 717500211, 718500211, 719500211, 720500211, 721500211, 722500211, 723500211, 724500211, 725500211, 726500211, 727500211, 728500211, 729500211, 730500211, 731500211, 732500211, 733500211, 734500211, 735500211, 736500211, 737500211, 738500211, 739500211, 740500211, 741500211, 742500211, 743500211, 744500211, 745500211, 746500211, 747500211, 748500211, 749500211, 750500211, 751500211, 752500211, 753500211, 754500211, 755500211, 756500211, 757500211, 758500211, 759500211, 760500211, 761500211, 762500211, 763500211, 764500211, 765500211, 766500211, 767500211, 768500211, 769500211, 770500211, 771500211, 772500211, 773500211, 774500211, 775500211, 776500211, 777500211, 778500211, 779500211, 780500211, 781500211, 782500211, 783500211, 784500211, 785500211, 786500211, 787500211, 788500211, 789500211, 790500211, 791500211, 792500211, 793500211, 794500211, 795500211, 796500211, 797500211, 798500211, 799500211, 800500211, 801500211, 802500211, 803500211, 804500211, 805500211, 806500211, 807500211, 808500211, 809500211, 810500211, 811500211, 812500211, 813500211, 814500211, 815500211, 816500211, 817500211, 818500211, 819500211, 820500211, 821500211, 822500211, 823500211, 824500211, 825500211, 826500211, 827500211, 828500211, 829500211, 830500211, 831500211, 832500211, 833500211, 834500211, 835500211, 836500211, 837500211, 838500211, 839500211, 840500211, 841500211, 842500211, 843500211, 844500211, 845500211, 846500211, 847500211, 848500211, 849500211, 850500211, 851500211, 852500211, 853500211, 854500211, 855500211, 856500211, 857500211, 858500211, 859500211, 860500211, 861500211, 862500211, 863500211, 864500211, 865500211, 866500211, 867500211, 868500211, 869500211, 870500211, 871500211, 872500211, 873500211, 874500211, 875500211, 876500211, 877500211, 878500211, 879500211, 880500211, 881500211, 882500211, 883500211, 884500211, 885500211, 886500211, 887500211, 888500211, 889500211, 890500211, 891500211, 892500211, 89350021